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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:28:10 ; Search time 95.8483 Seconds  
(without alignments)  
121.622 Million cell updates/sec

Title: US-10-691-125-1

Perfect score: 738

Sequence: 1 AVSEHQLLHDKGKSIQDLRR.....EGDHLSDTSTSLDLSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA.\*

- 1: /cgn2\_6/ptodata/1/iaa/5 COMB.pdp.\*
- 2: /cgn2\_6/ptodata/1/iaa/6 COMB.pdp.\*
- 3: /cgn2\_6/ptodata/1/iaa/H COMB.pdp.\*
- 4: /cgn2\_6/ptodata/1/iaa/PCTUS COMB.pdp.\*
- 5: /cgn2\_6/ptodata/1/iaa/RE COMB.pdp.\*
- 6: /cgn2\_6/ptodata/1/iaa/backfiles1.pdp.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	738	100.0	141	1	US-08-411-726-5
2	738	100.0	141	6	Sequence 5, Appli Patent No. 5217896
3	738	100.0	177	2	Sequence 165, App
4	738	100.0	177	2	Sequence 166, App
5	738	100.0	177	2	Sequence 165, App
6	738	100.0	177	2	Sequence 166, App
7	738	100.0	177	2	Sequence 165, App
8	738	100.0	177	2	Sequence 166, App
9	738	100.0	177	2	Sequence 165, App
10	738	100.0	177	2	Sequence 166, App
11	738	100.0	177	2	Sequence 447, App
12	738	100.0	177	2	Sequence 165, App
13	738	100.0	177	2	Sequence 166, App
14	738	100.0	177	2	Sequence 165, App
15	738	100.0	177	2	Sequence 166, App
16	738	100.0	177	2	Sequence 165, App
17	738	100.0	177	2	Sequence 166, App
18	738	100.0	177	2	Sequence 165, App
19	738	100.0	177	2	Sequence 166, App
20	738	100.0	177	2	Sequence 165, App
21	738	100.0	177	2	Sequence 166, App
22	731	99.1	209	1	Sequence 1, Appli Patent No. 5217896
23	725	98.2	256	2	Sequence 10164, A
24	458	62.1	87	6	Sequence 62, Appli Patent No. 5217896
25	452	61.2	86	2	Sequence 62, Appli Patent No. 5217896
26	361	48.9	69	6	Sequence 5, Appli Patent No. 5217896
27	293	39.7	56	6	Sequence 5, Appli Patent No. 5217896

28	262	35.5	90	2	US-09-513-999C-4470	Sequence 4470, Ap
29	214	29.0	47	1	US-07-778-926-21	Sequence 21, Appl
30	210	28.5	46	1	US-07-778-926-17	Sequence 17, Appl
31	208	28.2	43	6	5460978-1	Patent No. 5460978
32	206	27.9	44	1	US-07-778-926-9	Sequence 9, Appli
33	206	27.9	45	1	US-07-778-926-13	Sequence 13, Appl
34	203	27.5	40	2	US-09-623-548A-260	Sequence 260, App
35	203	27.5	40	2	US-09-657-276-260	Sequence 260, App
36	203	27.5	41	2	US-09-623-548A-284	Sequence 284, App
37	203	27.5	41	2	US-09-657-276-284	Sequence 284, App
38	201	27.2	43	1	US-07-778-926-5	Sequence 5, Appli
39	190	25.7	37	2	US-09-623-548A-299	Sequence 299, App
40	190	25.7	37	2	US-09-657-276-299	Sequence 299, App
41	185	25.1	36	2	US-10-340-484-2	Sequence 2, Appli
42	185	25.1	36	2	US-10-340-484-3	Sequence 3, Appli
43	185	25.1	36	2	US-10-340-484-4	Sequence 4, Appli
44	185	25.1	36	2	US-10-340-484-5	Sequence 5, Appli
45	185	25.1	36	2	US-10-340-484-6	Sequence 6, Appli

ALIGNMENTS

RESULT 1

US-08-411-726-5  
; Sequence 5, Application US/08411726  
; Patent No. 5880093  
; GENERAL INFORMATION:  
; APPLICANT: BAGNOLI, Franco  
; TITLE OF INVENTION: Use of Parathormone, Its Biologically  
; TITLE OF INVENTION: Active Fragments and Correlated Peptides, for The Preparation  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESSES:  
; ADDRESSEE: Kenyon & Kenyon  
; STREET: 1 Broadway  
; CITY: New York  
; STATE: NY  
; COUNTRY: US  
; ZIP: 10004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: 3.5 Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS 6.2  
; SOFTWARE: WordPerfect 6.1 for Windows  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/411,726  
; FILING DATE: 05-APR-1995  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/EP93/02755  
; FILING DATE: 08-OCT-1993  
; APPLICATION NUMBER: MI-92A002331  
; FILING DATE: 09-OCT-1992  
; ATTORNEY/AGENT INFORMATION:  
; NAME: PALMESE, Maria Luisa  
; REGISTRATION NUMBER: 34,402  
; REFERENCE/DOCKET NUMBER: 2111/1300  
; TELEPHONE: 212-425-7200  
; TELEFAX: 212-425-5288  
; INFORMATION FOR SEQ ID NO: 5:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 141 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-411-726-5

Query Match 100.0%; Score 738; DB 1; Length 141;  
Best Local Similarity 100.0%; Pred. No. 1.7e-69;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
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Db 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
|||||
Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 121 LEGDHLSDTSTTSLELDSRRH 141
|||||

RESULT 2
5217896-3
; Patent No. 5217896
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS
; JR., FREDERICK H.; SORVILLO, JOHN M.
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING
; PARATHYROID HORMONE-LIKE PROTEIN
; NUMBER OF SEQUENCES: 8
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/292,263
; FILING DATE: 30-DEC-1988
; SEQ ID NO:3:
; LENGTH: 141
5217896-3

Query Match 100.0%; Score 738; DB 6; Length 141;
Best Local Similarity 100.0%; Pred. No. 1.7e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
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Db 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
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Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 121 LEGDHLSDTSTTSLELDSRRH 141
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RESULT 3
US-09-643-597-165
; Sequence 165, Application US/09643597
; Patent No. 6426072
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Kalos, Michael D.
; APPLICANT: Bangur, Chaitanya S.
; APPLICANT: Hosken, Nancy
; APPLICANT: Fanger, Gary R.
; APPLICANT: Li, Samuel X.
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C11
; CURRENT APPLICATION NUMBER: US/09/643,597
; CURRENT FILING DATE: 2000-08-21
; NUMBER OF SEQ ID NOS: 369
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien

Query Match 100.0%; Score 738; DB 6; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Db 37 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96
|||||
Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
|||||
Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 156
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Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 157 LEGDHLSDTSTTSLELDSRRH 177
|||||

RESULT 4
US-09-643-597-166
; Sequence 166, Application US/09643597
; Patent No. 6426072
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Kalos, Michael D.
; APPLICANT: Bangur, Chaitanya S.
; APPLICANT: Hosken, Nancy
; APPLICANT: Fanger, Gary R.
; APPLICANT: Li, Samuel X.
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C11
; CURRENT APPLICATION NUMBER: US/09/643,597
; CURRENT FILING DATE: 2000-08-21
; NUMBER OF SEQ ID NOS: 369
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien

Query Match 100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Db 37 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96
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Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
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Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 156
|||||
Qy 121 LEGDHLSDTSTTSLELDSRRH 141
|||||
Db 157 LEGDHLSDTSTTSLELDSRRH 177
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RESULT 5
US-09-480-884A-165
; Sequence 165, Application US/09480884A
; Patent No. 6482597
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Hosken, Nancy A.
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US-09-643-597-165

Query Match 100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
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Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 156
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Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 157 LEGDHLSDTSTTSLELDSRRH 177
|||||

RESULT 4
US-09-643-597-166
; Sequence 166, Application US/09643597
; Patent No. 6426072
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Kalos, Michael D.
; APPLICANT: Bangur, Chaitanya S.
; APPLICANT: Hosken, Nancy
; APPLICANT: Fanger, Gary R.
; APPLICANT: Li, Samuel X.
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C11
; CURRENT APPLICATION NUMBER: US/09/643,597
; CURRENT FILING DATE: 2000-08-21
; NUMBER OF SEQ ID NOS: 369
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien

Query Match 100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
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Db 37 AVSEHQLLDKKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96
|||||
Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 120
|||||
Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKRKEQKKRRTRSAWLDSGVTGSG 156
|||||
Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 157 LEGDHLSDTSTTSLELDSRRH 177
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RESULT 5
US-09-480-884A-165
; Sequence 165, Application US/09480884A
; Patent No. 6482597
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Hosken, Nancy A.
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## RESULT 7

Db 97 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 156  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 9  
US-09-606-421B-165  
; Sequence 165, Application US/09606421B  
; Patent No. 6531315  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C9  
; CURRENT APPLICATION NUMBER: US/09/606.421B  
; CURRENT FILING DATE: 2000-06-28  
; NUMBER OF SEQ ID NOS: 358  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-606-421B-165

Query Match 100.0%; Score 738; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 2.2e-69;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 60  
Db 37 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 96  
Qy 61 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 120  
Db 97 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 156  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 10  
US-09-606-421B-166  
; Sequence 166, Application US/09606421B  
; Patent No. 6531315  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C9  
; CURRENT APPLICATION NUMBER: US/09/606.421B  
; CURRENT FILING DATE: 2000-06-28  
; NUMBER OF SEQ ID NOS: 358  
; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-606-421B-166  
Query Match 100.0%; Score 738; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 2.2e-69;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 60  
Db 37 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 96  
Qy 61 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 120  
Db 97 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 156  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 11  
US-09-976-594-447  
; Sequence 447, Application US/09976594  
; Patent No. 6673549  
; GENERAL INFORMATION:  
; APPLICANT: Furness, Michael  
; APPLICANT: Buchbinder, Jenny  
; TITLE OF INVENTION: GENES EXPRESSED IN C3A LIVER CELL CULTURES TREATED WITH STEROIDS  
; FILE REFERENCE: PA-0041 US  
; CURRENT APPLICATION NUMBER: US/09/976.594  
; PRIOR FILING DATE: 2001-10-12  
; PRIOR APPLICATION NUMBER: 60/240,409  
; PRIOR FILING DATE: 2000-10-12  
; NUMBER OF SEQ ID NOS: 1143  
; SOFTWARE: PERL Program  
; SEQ ID NO 447  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; NAME/KEY: misc feature  
; OTHER INFORMATION: Incyte ID No. 6673549 2026270CD1  
US-09-976-594-447

Query Match 100.0%; Score 738; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 2.2e-69;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 60  
Db 37 AVSEHQLLDKKGKSIQDLRRRFFLHLIAEIHIAETAEIRATSEVSPNSKPSNTKNHPVRFG 96  
Qy 61 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 120  
Db 97 SDDEGRYLTOETNKVETKEOPLKTPGKKKGKPGKKEQKKRRTRSAWLDGVTGSG 156  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 12  
US-09-466-396A-165  
; Sequence 165, Application US/09466396A  
; Patent No. 6696247  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY AND  
; TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C4



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; CURRENT APPLICATION NUMBER: US/09/466.396A
; CURRENT FILING DATE: 1999-12-17
; NUMBER OF SEQ ID NOS: 224
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-466-396A-165

Query Match      100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 60
Db      37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 96

Qy      61 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 120
Db      97 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 156

Qy      121 LEGDHLSDTSTTSLELDSRRH 141
Db      157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 13
US-09-466-396A-166
; Sequence 166, Application US/09466396A
; Patent No. 6696247
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY AND
; FILE REFERENCE: 210121.455C4
; CURRENT APPLICATION NUMBER: US/09/466.396A
; CURRENT FILING DATE: 1999-12-17
; NUMBER OF SEQ ID NOS: 224
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-466-396A-166

Query Match      100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 60
Db      37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 96

Qy      61 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 120
Db      97 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 156

Qy      121 LEGDHLSDTSTTSLELDSRRH 141
Db      157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 14
US-09-476-496A-165
; Sequence 165, Application US/09476496A
; Patent No. 6706262
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Hosken, Nancy A.
; APPLICANT: Kalos, Michael D.
; APPLICANT: Fanger, Gary R.
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY OF
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; TITLE OF INVENTION: LUNG CANCER
; FILE REFERENCE: 210121.455CS
; CURRENT APPLICATION NUMBER: US/09/476.496A
; CURRENT FILING DATE: 1999-12-30
; NUMBER OF SEQ ID NOS: 254
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-476-496A-165

Query Match      100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 60
Db      37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 96

Qy      61 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 120
Db      97 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 156

Qy      121 LEGDHLSDTSTTSLELDSRRH 141
Db      157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 15
US-09-476-496A-166
; Sequence 166, Application US/09476496A
; Patent No. 6706262
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Hosken, Nancy A.
; APPLICANT: Kalos, Michael D.
; APPLICANT: Fanger, Gary R.
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY OF
; FILE REFERENCE: 210121.455CS
; CURRENT APPLICATION NUMBER: US/09/476.496A
; CURRENT FILING DATE: 1999-12-30
; NUMBER OF SEQ ID NOS: 254
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-476-496A-166

Query Match      100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 2.2e-69;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 60
Db      37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRFG 96

Qy      61 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 120
Db      97 SDDEGRYLTQETNKVETVKEQPLTPGKKKGKPGKRKEQKKRRTTSAMLDSGVTGSG 156

Qy      121 LEGDHLSDTSTTSLELDSRRH 141
Db      157 LEGDHLSDTSTTSLELDSRRH 177

Search completed: December 2, 2005, 22:38:20
Job time : 96.8483 secs
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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:38:37 ; Search time 392.107 Seconds  
(without alignments)  
253.705 Million cell updates/sec

Title: US-10-691-125-1  
Perfect score: 738  
Sequence: 1 AVSEHQMLHDKGKSIQDLRR.....EGDHLSDTSTSLDLSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : UniProt\_05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	738	100.0	177	1 PTHR_HUMAN	P12272 homo sapien
2	738	100.0	177	1 Q6FH74 HUMAN	Q6fh74 homo sapien
3	725	98.2	175	2 Q53XV9 HUMAN	Q53xv9 homo sapien
4	695	94.2	202	2 Q3BDZ3 RABIT	Q3bdz3 oryctolagus
5	682	92.4	177	1 PTHR_CANFA	P52211 canis famli
6	682	92.4	177	2 Q866H2 FIG	Q866h2 sus scrofa
7	673	91.2	177	2 Q659U2 PHOVI	Q659u2 phoca vitul
8	673	91.2	177	2 Q659U3 HALGR	Q659u3 halichoerus
9	672	91.1	177	1 PTHR_BOVIN	P58073 bos taurus
10	658	89.2	170	2 Q7YR12 CEREL	Q7yri2 cervus elap
11	651	88.2	137	1 PTHR_HORSE	Q9gmb7 equus cabal
12	643	87.1	177	1 PTHR_RABIT	Q9glc7 oryctolagus
13	628	85.1	177	1 PTHR_RAT	P13085 rattus norv
14	616	83.5	175	1 PTHR_MOUSE	P22858 mus musculu
15	616	83.5	175	2 Q540C1 MOUSE	Q540c1 mus musculu
16	610	82.7	175	2 Q24X4 MOUSE	Q24x4 mus musculu
17	608	82.4	175	2 Q811S6 MOUSE	Q811s6 mus musculu
18	521	70.6	176	1 PTHR_CHICK	P17251 gallus gall
19	521	70.6	178	2 Q5TLZ2 CHICK	Q5tlz2 gallus gall
20	496	67.2	121	1 PTHR_SHEEP	Q9ck30 ovis aries
21	374	50.7	94	2 Q95KZ2 FELCA	Q95kz2 felis silve
22	263	35.6	163	2 Q918E9 FUGRU	Q918e9 figu rubrip
23	258	35.0	162	2 Q918U2 SPAAU	Q918u2 sparus aura
24	252.5	34.2	198	2 Q5SPK3 BRARE	Q5spk3 brachydanio
25	251.5	34.1	198	2 Q4VVA3 BRARE	Q4vva3 brachydanio
26	239	32.4	166	2 Q53IQ0 PLATHE	Q53iq0 platichthys
27	234	31.7	166	2 Q8H9R6 PLATHE	Q8h9r6 platichthys
28	193.5	26.2	177	2 Q4RSF3 TETNG	Q4rsf3 tetraodon n
29	151	20.5	34	2 Q9QVB3 9MURI	Q9qvb3 rattus sp.
30	147.5	20.0	107	2 Q4TGY4 TETNG	Q4tgy4 tetraodon n
31	108	14.6	236	2 Q6K6K1 ORYSA	Q6k6k1 oryza sativ

32	101	13.7	653	2	Q9XYZ6 DROME	Q9xyz6 drosophila
33	98	13.3	500	2	Q60SE7 CAEBR	Q60se7 caenorhabdi
34	97	13.1	1027	2	Q9BR70 HUMAN	Q9br70 homo sapien
35	97	13.1	1028	2	Q5R7X2 PONPY	Q5r7x2 pongo pygma
36	95	13.0	338	2	Q9CSW7 MOUSE	Q9csw7 m mus muscu
37	95.5	12.9	1028	2	O15042 HUMAN	O15042 homo sapien
38	95	12.9	868	2	Q9VIY5 DROME	Q9viy5 drosophila
39	95	12.9	1193	2	Q8T8S8 DROME	Q8t8s8 drosophila
40	95	12.9	1304	2	O8IN06 DROME	O8in06 drosophila
41	95	12.9	1469	2	Q9VD20 DROME	Q9vd20 drosophila
42	94.5	12.8	985	2	G6NV83 MOUSE	G6nv83 mus musculu
43	93.5	12.7	5560	1	SPEN DROME	Q8ex83 drosophila
44	93	12.6	340	2	Q6DGH4 BRARE	Q6dgh4 brachydanio
45	93	12.6	749	2	Q23804_CHITE	Q23804 chironomus

ALIGNMENTS

RESULT 1  
PTHR\_HUMAN ID\_PTHR\_HUMAN STANDARD; PRT; 177 AA.  
AC P12272; Q15251;  
DT 01-OCT-1989 (Rel. 12, Created)  
DT 01-OCT-1989 (Rel. 12, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp)  
DE [Contains: PTHrP[1-36]; PTHrP[38-94]; Osteostatin (PTHrP[107-139])].  
GN Name=PTHrP; Synonyms=PTHrP;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.  
RX MEDLINE=87292119; PubMed=3616618;  
RA Suva L.J., Winslow G.A., Wettenhall R.E.H., Hammonds R.G.,  
Moseley J.M., Diefenbach-Jagger H., Rodda C.P., Kemp B.E.,  
Rodriguez H., Chen E.Y., Hudson P.J., Martin T.J., Wood W.I.;  
RT "A parathyroid hormone-related protein implicated in malignant  
hypercalcaemia: cloning and expression."  
RT Science 237:893-896(1987).  
RL [2]  
RN NUCLEOTIDE SEQUENCE.  
RX MEDLINE=88124888; PubMed=2829195;  
RA Mangin M., Webb A.C., Dreyer B.E., Posillico J.T., Ikeda K.,  
Weir E.C., Stewart A.F., Bander N.H., Milstone L., Barton D.E.,  
Francke U., Broadus A.E.;  
RA "Identification of a cDNA encoding a parathyroid hormone-like peptide  
from a human tumor associated with humoral hypercalcaemia of  
malignancy."  
RT Proc. Natl. Acad. Sci. U.S.A. 85:597-601(1988).  
RL [3]  
RN NUCLEOTIDE SEQUENCE.  
RX MEDLINE=89214227; PubMed=2708388;  
RA Yasuda T., Banville D., Hendy G.N., Goltzman D.;  
RT "Characterization of the human parathyroid hormone-like peptide gene.  
Functional and evolutionary aspects."  
RL J. Biol. Chem. 264:7720-7725(1989).  
RL [4]  
RN NUCLEOTIDE SEQUENCE (ISOFORM 2).  
RX MEDLINE=88262996; PubMed=3290897;  
RA Thiede M.A., Stewler G.J., Nissenson R.A., Rosenblatt M., Rodan G.A.;  
RT "Human renal carcinoma expresses two messages encoding a parathyroid  
hormone-like peptide: evidence for the alternative splicing of a  
single-copy gene."  
RL Proc. Natl. Acad. Sci. U.S.A. 85:4605-4609(1988).  
RN [5]  
RP NUCLEOTIDE SEQUENCE (LARGE SCALE MRNA) (ISOFORM 2).  
RC TISSUE=Brain;  
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heish F.,  
RA Diatchenko L., Marusina K., Rubin A.A., Rubin G.M., Hong L.,  
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaby S.J.,  
RA Boak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
RA Fahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
RA Butterfield Y.S.N., Kryzyski M.I., Skalska U., Smallus D.E.,  
RA Schnerch A., Schein J.B., Jones S.J.M., Marra M.A.,  
RA "Generation and initial analysis of more than 15,000 full-length human  
RT and mouse cDNA sequences.";  
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RN [6]  
RP NUCLEOTIDE SEQUENCE OF 1-33.  
RC TISSUE=Liver;  
RX MEDLINE=89306685; PubMed=2744490; DOI=10.1016/0378-1119(89)90363-6;  
RA Suva L.J., Mather K.A., Gillespie M.T., Webb G.C., Ng K.W.,  
RA Winslow G.A., Wood W.I., Martin T.J., Hudson P.J.;  
RT "Structure of the 5' flanking region of the gene encoding human  
RT parathyroid-hormone-related protein (PTHrP).";  
RL Gene 77:95-105(1989).  
RN [7]  
RP PROTEIN SEQUENCE OF 37-52.  
RX MEDLINE=87260926; PubMed=2885845;  
RA Moseley J.M., Kubota M., Diefenbach-Jagger H., Wettenhall R.E.H.,  
RA Kemp B.E., Suva L.J., Rodda C.P., Ebeling P.R., Hudson P.J.,  
RA Zajac J.D., Martin T.J.;  
RT "Parathyroid hormone-related protein purified from a human lung cancer  
RT cell line.";  
RL Proc. Natl. Acad. Sci. U.S.A. 84:5048-5052(1987).  
RN [8]  
RP ALTERNATIVE SPLICING (ISOFORM 3).  
RX MEDLINE=89184636; PubMed=2928340;  
RA Mangin M., Ikeda K., Dreyer B.E., Broadus A.E.;  
RT "Isolation and characterization of the human parathyroid hormone-like  
RT peptide gene.";  
RL Proc. Natl. Acad. Sci. U.S.A. 86:2408-2412(1989).  
RN [9]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92007462; PubMed=1915066;  
RA Fenton A.J., Kemp B.E., Kent G.N., Moseley J.M., Zheng M.H.,  
RA Rowe D.J., Britto J.M., Martin T.J., Nicholson G.C.;  
RT "A carboxyl-terminal peptide from the parathyroid hormone-related  
RT protein inhibits bone resorption by osteoclasts.";  
RL Endocrinology 129:1762-1768(1991).  
RN [10]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92063907; PubMed=1954916;  
RA Fenton A.J., Kemp B.E., Hammonds R.G., Mitchell K., Moseley J.M.,  
RA Martin T.J., Nicholson G.C.;  
RT "A potent inhibitor of osteoclastic bone resorption within a highly  
RT conserved pentapeptide region of parathyroid hormone-related protein;  
RT PTHrP107-111.";  
RL Endocrinology 129:3424-3426(1991).  
RN [11]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97289439; PubMed=9144344;  
RA Martinez M.E., Garcia-Ocana A., Sanchez M., Medina S., del Campo T.,  
RA Valin A., Sanchez-Gabardo M.J., Esbrit P.;  
RT "C-terminal parathyroid hormone-related protein inhibits proliferation  
RT and differentiation of human osteoblast-like cells.";  
RL J. Bone Miner. Res. 12:778-785(1997).  
RN [12]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97200810; PubMed=9048639; DOI=10.1210/en.138.3.1299;  
RA Cornish J., Callon K.E., Nicholson G.C., Reid I.R.;  
RT "Parathyroid hormone-related protein-(107-139) inhibits bone  
RT resorption in vivo.";  
RL Endocrinology 138:1299-1304(1997).  
RN [13]  
RP NUCLEOCTOPLASMIC SHUTTLING.  
RX MEDLINE=22736810; PubMed=12852260; DOI=10.1016/S0083-6729(03)01010-0;  
RA Jans D.A., Thomas R.J., Gillespie M.T.;  
RT "Parathyroid hormone-related protein (PTHrP): a nucleocytoplasmic  
RT shuttling protein with distinct paracrine and intracrine roles.";  
RL Vitam. Horm. 66:345-384(2003).  
RN [14]  
RP NUCLEAR LOCALIZATION SIGNAL.  
RX MEDLINE=21294781; PubMed=11401507; DOI=10.1006/bbrc.2001.4607;  
RA Lam M.H., Hu W., Xiao C.Y., Gillespie M.T., Jans D.A.;  
RT "Molecular dissection of the importin beta1-recognized nuclear  
RT targeting signal of parathyroid hormone-related protein.";  
RL Biochem. Biophys. Res. Commun. 282:629-634(2001).  
RN [15]  
RP REVIEW  
RX MEDLINE=22425984; PubMed=12538599; DOI=10.1210/en.2002-220818;  
RA Fiaschi-Raesch N.M., Stewart A.F.;  
RT "Minireview: parathyroid hormone-related protein as an intracrine  
RT factor -- trafficking mechanisms and functional consequences.";  
RL Endocrinology 144:407-411(2003).  
RN [16]  
RP STRUCTURE BY NMR OF 37-70.  
RX MEDLINE=99158054; PubMed=10050767; DOI=10.1016/S0014-5793(98)01658-5;  
RA Weidner M., Marx U.C., Seidel G., Schafer W., Hoffmann E., Esswein A.,  
RA Rosch P.;  
RT "The structure of human parathyroid hormone-related protein(1-34) in  
RT near-physiological solution.";  
RL FEBS Lett. 444:239-244(1999).  
RN [17]  
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS) OF 103-130.  
RX MEDLINE=22394015; PubMed=12504010; DOI=10.1016/S1097-2765(02)00727-X;  
RA Cingolani G., Bedenko J., Gillespie M.T., Garace L.;  
RT "Molecular basis for the recognition of a nonclassical nuclear  
RT localization signal by importin beta.";  
RL Mol. Cell 10:1345-1353(2002).  
CC -I- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth.  
CC -I- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption.  
CC -I- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted.  
CC -I- ALTERNATIVE PRODUCTS:  
CC Event-Alternative splicing; Named isoforms=3;  
CC Comment=Additional isoforms seem to exist;  
CC Name=1;  
CC IsoId=P12272-1; Sequence=Displayed;  
CC Name=2;  
CC IsoId=P12272-2; Sequence=VSP\_004534;  
CC Name=3;  
CC ISOId=P12272-3; Sequence=VSP\_004535;  
CC -I- TISSUE SPECIFICITY: Ubiquitous. Also expressed in the mammary  
CC gland.  
CC -I- PTM: There are 3 principal secretory forms, called PTHrP[1-36],  
CC PTHrP[38-94], and osteostatin [PTHrP[107-139]] arising from  
CC endoproteolytic cleavage of the initial translation product. Each  
CC of these secretory forms is believed to have one or more of its  
CC own receptors that mediate the normal paracrine, autocrine and  
CC endocrine actions.  
CC -I- DISEASE: Produced by many tumors from patients with HHM (humoral  
CC hypercalcemia of malignancy).  
CC -I- SIMILARITY: Belongs to the parathyroid hormone family.  
CC -----  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.

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CC -----
DR EMBL; M17183; AAA60221.1; -; Genomic_DNA.

Query Match      100.0%; Score 738; DB 1; Length 177;
Best Local Similarity 100.0%; Pred. No. 9.6e-54;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
Dd 37 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 120
Dd 97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Dd 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 2
Q6FH74 HUMAN PRELIMINARY; PRT; 177 AA.
ID Q6FH74 HUMAN PRELIMINARY; PRT; 177 AA.
AC Q6FH74;
DT 10-MAY-2005 (TrEMBLrel. 30, Created)
DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)
DT 10-MAY-2005 (TrEMBLrel. 30, Last annotation update)
DE PTHLH protein (Fragment).
GN Name=PTHLH;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Halleck A., Ebert L., Moundinya M., Schick M., Eisenstein S.,
RA Neubert P., Katrang K., Schatten R., Shen B., Henze S., Mar W.,
RA Korn B., Zuo D., Hu Y., Labaer J.;
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; CR541882; CAG46680.1; -; mRNA.
FT NON TER 177
SQ SEQUENCE 177 AA; 20194 MW; 449FDFEE954C51DB CRC64;

Query Match      100.0%; Score 738; DB 2; Length 177;
Best Local Similarity 100.0%; Pred. No. 9.6e-54;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
Dd 37 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 120
Dd 97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Dd 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 3
Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.
ID Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.
AC Q53XY9;
DT 13-SEP-2005 (TrEMBLrel. 31, Created)
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE Parathyroid hormone-like hormone.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
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OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Kaline N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,
RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
RA Phelan M., Farmer A.;
RT "Cloning of human full-length CDSs in BD Creator(TM) System Donor
RT vector.";
RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; BT007178; AAP35842.1; -; mRNA.
SQ SEQUENCE 175 AA; 19900 MW; 4FEE954C51DB3E7D CRC64;

Query Match      98.2%; Score 725; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 1.1e-52;
Matches 139; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
Dd 37 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 120
Dd 97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSR 139
Dd 157 LEGDHLSDTSTTSLELDSR 175

RESULT 4
Q9BDZ3 RABIT PRELIMINARY; PRT; 202 AA.
ID Q9BDZ3 RABIT PRELIMINARY; PRT; 202 AA.
AC Q9BDZ3;
DT 01-JUN-2001 (TrEMBLrel. 17, Created)
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Parathyroid hormone-related protein.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae;
OC Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA TISSUE=Perichondrial;
RA Goomer R., Terkeltaub R., Defos L.J.;
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF219973; AAK38175.1; -; mRNA.
DR HSSP; P12272; 1BZG.
DR GO; GO:0005576; C:extracellular region; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007595; P:lactation; IEA.
DR InterPro; IPR001415; Parathyroid_hrm.
DR InterPro; IPR003626; PTH_related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
SQ SEQUENCE 202 AA; 22924 MW; 03FBE00AEF3EA7D6 CRC64;

Query Match      94.2%; Score 695; DB 2; Length 202;
Best Local Similarity 99.3%; Pred. No. 4.3e-50;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 60
Dd 37 AVSEHQLLHDGKSIQDLRRFFFLHLLIAETHTAEIRATSEVSPNSKPSPTNKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 120
Dd 97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAMLDSGVTGSG 156

Qy 121 LEGDHLSDTSTTSL 134
```



DE Parathyroid hormone related protein (Fragment).  
GN Name=pthlp;  
OS Phoca vitulina (Harbor seal).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Pinnipedia; Phocidae;  
OC Phoca.  
OX NCBI\_TaxID=9720;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond H.A.; Bennett K.A.; Walton M.J.; Hall A.J.;  
RL "Molecular cloning and expression of leptin from seals and its potential role in the control of pinniped pulmonary surfactant secretion."  
RT Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
RL Submitter: [1]  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond J.A.;  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL: AJ831411; CAH39862.1; -; mRNA.  
DR GO: GO:0005576; C:extracellular region; IEA.  
DR CO: CO:0005179; F:hormone activity; IEA.  
DR GO: GO:0007595; P:lactation; IEA.  
DR InterPro: IPR001415; Parathyroid hrm.  
DR Pfam: PF01279; Parathyroid; 1.  
DR ProDom: PD013225; PTH related; 1.  
DR SMART: SM00087; PTH; 1.  
DR PROSITE: PS00335; PARATHYROID; 1.  
DR NON TER 177  
FT SEQUENCE 177 AA; 20284 MW; 6E9941EBD22F5397 CRC64;  
SQ

Query Match 91.2%; Score 673; DB 2; Length 177;  
Best Local Similarity 91.5%; Pred. No. 2.5e-48;  
Matches 129; Conservative 4; Mismatches 8; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKSGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKXHPVRFG 60  
Db 37 AVSEHQLLDKSGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKXHPVRFG 96  
Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKKEQKKRRTSAWLDGSGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKKEQKKRRTSAWLDGSGVTGSG 156  
Qy 121 LEGDHLSDTSTSLDSSRH 141  
Db 157 REGDHPYDISVTSPELNLRH 177

RESULT 8  
Q659U3 HALGR PRELIMINARY; PRT; 177 AA.  
AC Q659U3;  
DT 25-OCT-2004 (TReMBLrel. 28, Created)  
DT 25-OCT-2004 (TReMBLrel. 28, Last sequence update)  
DT 25-OCT-2004 (TReMBLrel. 28, Last annotation update)  
DE Parathyroid hormone related protein (fragment).  
GN Name=pthlp;  
OS Halichoerus grypus (Gray seal).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Pinnipedia; Phocidae;  
OC Halichoerus.  
OX NCBI\_TaxID=9711;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond H.A.; Bennett K.A.; Walton M.J.; Hall A.J.;  
RL "Molecular cloning and expression of leptin from seals and its potential role in the control of pinniped pulmonary surfactant secretion."  
RT Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
RN [2]

RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond J.A.;  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL: AJ831410; CAH39861.1; -; mRNA.  
DR GO: GO:0005576; C:extracellular region; IEA.  
DR CO: CO:0005179; F:hormone activity; IEA.  
DR GO: GO:0007595; P:lactation; IEA.  
DR InterPro: IPR001415; Parathyroid hrm.  
DR Pfam: PF01279; Parathyroid; 1.  
DR ProDom: PD013225; PTH related; 1.  
DR SMART: SM00087; PTH; 1.  
DR PROSITE: PS00335; PARATHYROID; 1.  
DR NON TER 177  
FT SEQUENCE 177 AA; 20284 MW; 6E9941EBD22F5397 CRC64;  
SQ

Query Match 91.2%; Score 673; DB 2; Length 177;  
Best Local Similarity 91.5%; Pred. No. 2.5e-48;  
Matches 129; Conservative 4; Mismatches 8; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKSGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKXHPVRFG 60  
Db 37 AVSEHQLLDKSGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKXHPVRFG 96  
Qy 61 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKKEQKKRRTSAWLDGSGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKQPLTPGKKKGKPGKKEQKKRRTSAWLDGSGVTGSG 156  
Qy 121 LEGDHLSDTSTSLDSSRH 141  
Db 157 REGDHPYDISVTSPELNLRH 177

RESULT 9  
PTH-BOVIN STANDARD; PRT; 177 AA.  
ID PTHR BOVIN  
AC P58073; Q8HYS1;  
DT 16-OCT-2001 (Rel. 40, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rP)  
DE [Contains: Osteostatin].  
GN Name=PTHLP;  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;  
OC Pecora; Bovidae; Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Brain;  
RX MEDLINE=98242432; PubMed=9584841; DOI=10.1677/jme.0.0200271;  
RA Wojcik S.F.; Schanbacher F.L.; McCauley L.K.; Zhou H.;  
RA Kartsogiannis V.; Capen C.C.; Rosol T.J.;  
RT "Cloning of bovine parathyroid hormone-related protein (PTH-rP) cDNA and expression of PTHrP mRNA in the bovine mammary gland."  
RL J. Mol. Endocrinol. 20:271-280(1998).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RC STRAIN=Holstein-Friesian; TISSUE=Mammary gland;  
RA Onda K.; Inaba M.; Ono K.;  
RT "Molecular cloning of bovine parathyroid hormone-related protein cDNA."  
RL Submitted (DEC-2002) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).  
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).

CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
CC similarity).  
CC -1- TISSUE SPECIFICITY: Expressed in the mammary gland.  
CC -1- PTM: There are several secretory forms, including osteostatin,  
CC arising from endoproteolytic cleavage of the initial translation  
CC product. Each of these secretory forms is believed to have one or  
CC more of its own receptors that mediates the normal paracrine,  
CC autocrine and endocrine actions (By similarity).  
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.  
CC  
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; AB097837; BAC44840.1; -; mRNA.  
CC HSSP; P12272; 1BZG.  
CC InterPro; IPR001415; Parathyroid hrm.  
CC InterPro; IPR003626; PTH related.  
CC PANTHER; PTHR17223; PTH related; 1.  
CC Pfam; PF01279; Parathyroid; 1.  
CC ProDom; PD013225; PTH related; 1.  
CC SMART; SM00087; PTH; 1.  
CC PROSITE; PS00335; PARATHYROID; 1.  
CC Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;  
CC Signal.  
CC SIGNAL 1 24 Potential.  
CC PROPEP 25 34 By similarity.  
CC CHAIN 37 177 Parathyroid hormone-related protein.  
CC PEPTIDE 143 175 Osteostatin (By similarity).  
CC MOTIF 108 129 Nuclear localization signal (By  
CC similarity).  
CC CONFLICT 26 26 S -> L (in Ref. 2).  
CC SEQUENCE 177 AA; 20408 MW; 6A5B48ECB219EF08 CRC64;  
Query Match 91.1%; Score 672; DB 1; Length 177;  
Best Local Similarity 91.5%; Pred. No. 3.1e-48;  
Matches 129; Conservative 5; Mismatches 7; Indels 0; Gaps 0;  
QY 1 AVSEHQLLDKSGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
DB 37 AVSEHQLLDKSGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96  
QY 61 SDDEGRYLTQETNKVETKEQPLTKGKKKGKPKRKEQKKRRTRSAWLSGVGTSG 120  
DB 97 SDDEGRYLTQETNKVETKEQPLTKGKKKGKPKRKEQKKRRTRSAWLSGVGTSG 156  
QY 121 LEGDHLSDTSTTSLELDSRRH 141  
DB 157 LEEDYLCDSATSLELDSRRH 177  
RESULT 10  
QYR12 CEREL PRELIMINARY; PRT; 170 AA.  
AC QYR12;  
DT 01-OCT-2003 (TrEMBLrel. 25, Created)  
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Parathyroid hormone related protein (Fragment).  
OS Cervus elaphus (Red deer).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;  
OC Pecora; Cervidae; Cervinae; Cervus.  
OX NCBI\_TaxID=9860;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX PubMed=15516324; DOI=10.1016/j.cellbi.2004.05.005;  
RA Barling P.M., Liu H., Matich J., Mount J., Ka Wai Lai A., Ma L.,  
RA Balford Nicholson L.F.;  
RT "Expression of PTHrP and the PTH/PTHrP receptor in growing red deer  
antler.";

RL Cell Biol. Int. 28:661-673 (2004).  
DR EMBL; AY328402; AAP93209.1; -; mRNA.  
DR HSSP; P12272; 1BZG.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyroid hrm.  
DR InterPro; IPR003626; PTH related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH related; 1.  
FT NON TER 1  
SQ SEQUENCE 170 AA; 19445 MW; 08A124B45BDD33BF CRC64;  
Query Match 89.2%; Score 658; DB 2; Length 170;  
Best Local Similarity 90.1%; Pred. No. 4.3e-47;  
Matches 127; Conservative 4; Mismatches 10; Indels 0; Gaps 0;  
QY 1 AVSEHQLLDKSGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
DB 30 AVSEHQLLDKSGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 89  
QY 61 SDDEGRYLTQETNKVETKEQPLTKGKKKGKPKRKEQKKRRTRSAWLSGVGTSG 120  
DB 90 SDDEGRYLTQETNKVETKEQPLTKGKKKGKPKRKEQKKRRTRSAWLSGVGTSG 149  
QY 121 LEGDHLSDTSTTSLELDSRRH 141  
DB 150 LEEDYLCDSATSLELDSRRH 170  
RESULT 11  
PTHrP HORSE  
ID PTHrP\_HORSE STANDARD; PRT; 137 AA.  
AC Q9GMB7;  
DT 16-OCT-2001 (Rel. 40, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein (PTH-rP) (PTHrP) [Contains:  
DE Osteostatin] (Fragment).  
GN Names=PTHrP;  
OS Equus caballus (Horse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.  
OX NCBI\_TaxID=9796;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Nixon A.J., Bent S.J., Brower-Toland B.D.;  
RT "Partial nucleotide sequence from the 5' end of equine parathyroid  
RT hormone-related peptide mRNA".  
RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth  
CC (By similarity).  
CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption (By similarity).  
CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
CC similarity).  
CC -1- PTM: There are several secretory forms, including osteostatin,  
CC arising from endoproteolytic cleavage of the initial translation  
CC product. Each of these secretory forms is believed to have one or  
CC more of its own receptors that mediates the normal paracrine,  
CC autocrine and endocrine actions (By similarity).  
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.  
CC  
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
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CC use as long as its content is in no way modified and this statement is not  
CC removed.



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DR EMBL; AY005821; AAF99386.1; -, mRNA.
DR HSP; P12272; 1BZG.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH_related.
DR PANTHER; PTHR17223; PTH_related; 1.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR PROSITE; PS00335; PARATHYROID; PARTIAL.
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein.
FT PEPTIDE 103 135 Osteostatin (By similarity). (By
FT MOTIF 68 89 Nuclear localization signal (By
FT NON TER 1 1 similarity).
SQ SEQUENCE 137 AA; 15845 MW; 388DA1162EABAD34 CRC64;

Query Match 88.2%; Score 651; DB 1; Length 137;
Best Local Similarity 91.2%; Pred. No. 1.3e-46;
Matches 125; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 5 HQLHDKGKSIQDLRRRFFLHLIAETHTAETIRATSEVSPNSKPSNPKHNPVRFGSDDE 64
DQ 1 HQLHDKGKSIQDLRRRFFLHLIAETHTAETIRATSEVSPNSKPSNPKHNPVRFGSDDE 60
QY 65 GRYLTQETNKVETKPEQLTPGKKKGKPGKKEQKKRTRTSAMLDSGVGTGSGLEGD 124
DQ 61 GRYLTQETNKLEPYKEQLTPGKKKGKPGKKEQKKRTRTSAMLNVEASEGLDGD 120
QY 125 HLDSTSTSLDLSRRH 141
DQ 121 HLDSTSTSLDLSRRH 137

RESULT 12
PTHR_RABIT
ID PTHR_RABIT STANDARD; PRT; 177 AA.
AC Q9GLC7;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp)
DE [Contains: Osteostatin].
GN Name=PTHrP; Synonyms=PThRP;
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae;
OC Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA McCaughern-Carucci J.F., Mitnick M., Emanuel J.R., Dworetzky S.I.;
RT "Cloning and expression of rabbit parathyroid hormone-related
protein."
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of
CC cellular and organ growth, development, migration, differentiation
CC and survival and of epithelial calcium ion transport. Regulates
CC endochondral bone development and epithelial-mesenchymal
CC interactions during the formation of the mammary glands and teeth
CC (By similarity).
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone
CC resorption (By similarity).
CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
CC similarity).
CC -!- PTM: There are several secretory forms, including osteostatin,
CC arising from endoproteolytic cleavage of the initial translation
CC product. Each of these secretory forms is believed to have one or
CC more of its own receptors that mediates the normal paracrine,
CC autocrine and endocrine actions (By similarity).
CC -!- SIMILARITY: Belongs to the parathyroid hormone family.
CC
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
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CC use as long as its content is in no way modified and this statement is not
CC removed.
DR EMBL; AF300703; AAG13414.1; -, mRNA.
DR HSP; P12272; 1BZG.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH_related.
DR PANTHER; PTHR17223; PTH_related; 1.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;
KW SIGNAL.
FT PROPEP 1 24 Potential.
FT CHAIN 25 34 By similarity.
FT PEPIDE 143 175 Parathyroid hormone-related protein.
FT MOTIF 108 129 Osteostatin (By similarity). (By
FT MOTIF 108 129 Nuclear localization signal (By
FT MOTIF 108 129 similarity).
SQ SEQUENCE 177 AA; 20005 MW; E2D9F4327657B919 CRC64;

Query Match 87.1%; Score 643; DB 1; Length 177;
Best Local Similarity 89.4%; Pred. No. 8e-46;
Matches 126; Conservative 1; Mismatches 14; Indels 0; Gaps 0;

QY 1 AVSEHQLLDKGSIQDLRRRFFLHLIAETHTAETIRATSEVSPNSKPSNPKHNPVRFG 60
DQ 37 AVSEHQLLDKGSIQDLRRRFFLHLIAETHTAETIRATSEVSPNSKPSNPKHNPVRFG 96
QY 61 SDDEGRYLTOETNKVETKPEQLTPGKKKGKPGKKEQKKRTRTSAMLDSGVGTGSG 120
DQ 97 SDDEGRYLTOETNKVETKPEQLTPGKKKGKPGKKEQKKRTRTSAMLDSGVGTGSG 156
QY 121 LEGDHLSDTSTSLDLSRRH 141
DQ 157 LAGDHLSDISEPEPELDSRRH 177

RESULT 13
PTHR_RAT
ID PTHR_RAT STANDARD; PRT; 177 AA.
AC P13085;
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp) (PLP)
DE [Contains: Osteostatin].
GN Name=Pthlh; Synonyms=Pthrp;
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC Muridae; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=89019361; PubMed=3175653;
RT Thiede W.A., Rodan G.A.;
RT "Expression of a calcium-mobilizing parathyroid hormone-like peptide
RT in lactating mammary tissue."
RL Science 242:278-280(1988).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=89313794; PubMed=2747658;
RT Yasuda T., Banville D., Rabbani S.A., Hendy G.N., Goltzman D.;
RT "Rat parathyroid hormone-like peptide: comparison with the human
RT homologue and expression in malignant and normal tissue."
RL Mol. Endocrinol. 3:518-525(1989).
RN [3]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=90259937; PubMed=2342478;
RT Karaplis A.C., Yasuda T., Hendy G.N., Goltzman D.;
RT "Gene-encoding parathyroid hormone-like peptide: nucleotide sequence
```

of the rat gene and comparison with the human homologue.";

Mol. Endocrinol. 4:441-446(1990).

-!- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).

-!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).

-!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).

-!- PTM: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).

-!- SIMILARITY: Belongs to the parathyroid hormone family.

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EMBL; M21967; AAA41981.1; -; mRNA.

EMBL; M31603; AAA41980.1; -; mRNA.

EMBL; M34112; AAA41889.1; -; Genomic\_DNA.

EMBL; M34108; AAA41889.1; JOINED; Genomic\_DNA.

EMBL; M34111; AAA41889.1; JOINED; Genomic\_DNA.

PIR; A34723; A30012.

HGSP; P12272; 18ZG.

RGD; 3441; Pthlh.

InterPro; IPR001415; Parathyroid hrm.

InterPro; IPR003626; PTH\_related.

PANTHER; PTHR17233; PTH\_related; 1.

Pfam; PF01279; Parathyroid; 1.

ProDom; PD013225; PTH\_related; 1.

SMART; SM00087; PTH; 1.

SMART; SM00087; PTH; 1.

PROSITE; PS00335; PARATHYROID; 1.

Cleavage on pair of basic residues; Hormone; Nuclear protein; Signal.

Signal. 1 24 Potential.

FT PROPEP 25 34

FT CHAIN 37 177 Parathyroid hormone-related protein.

FT PEPTIDE 143 175 Osteostatin (By similarity).

FT MOTIF 108 129 Nuclear localization signal (By similarity).

SQ SEQUENCE 177 AA; 20204 MW; 11091EC48CA73B20 CRC64;

Query Match 85.1%; Score 628; DB 1; Length 177;

Best Local Similarity 88.2%; Pred. No. 1.4e-44;

Matches 12; Conservative 2; Mismatches 9; Indels 6; Gaps 3;

Qy 1 AVSEHQLLDKGSIQDLRRRFFLLHLLTAETHTAEIRATSEVSPNSKPSPTKNHPVRF 60

Db 37 AVSEHQLLDKGSIQDLRRRFFLLHLLTAETHTAEIRATSEVSPNSKPSPTKNHPVRF 96

Qy 61 SDBGRYLQETNKVETKYKQPLTPKKKKKGKPKKQEKKKRRTSRSLWLSGVGTSG 120

Db 97 SDBGRYLQETNKVETKYKQPLTPKKKKKGKPKKQEKKKRRTSRSAW--PGTTGSG 154

Qy 121 LEGD---HLSDTSTSLSDSRH 141

Db 155 LLEDQPHTPTS-TSLEPSRTH 177

RESULT 14

PTHR\_MOUSE

ID\_PTHR\_MOUSE

AC P22858;

DT 01-AUG-1991 (Rel. 19, Created)

DT 01-AUG-1991 (Rel. 19, Last sequence update)

DT 10-MAY-2005 (Rel. 47, Last annotation update)

DE Parathyroid hormone-related protein precursor (PTH-rp) (PThRp) (PLP)

DE [Contains: Osteostatin].

GN Name=Pthlh; Synonyms=Pthrp;

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;

OC Muroidae; Muridae; Murinae; Mus.

OX NCBI\_TaxID=10090;

RN [1]

RP NUCLEOTIDE SEQUENCE.

RX MEDLINE=91065532; PubMed=2249778; DOI=10.1016/0378-1119(90)90362-U;

RA Mangin M., Ikeda K., Broadus A.E.;

RT "Structure of the mouse gene encoding parathyroid hormone-related peptide.";

RL Gene 95:195-202(1990).

RN [2]

RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].

RC STRAIN=FVB/N; TISSUE=Mammary gland;

RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J., Bosak S.A., McSwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Vallalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakeley R.W., Touchman J.W., Green E.D., Dickinson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalls S., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;

RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences";

RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).

CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).

CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).

CC -!- PTM: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).

CC -!- SIMILARITY: Belongs to the parathyroid hormone family.

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EMBL; M60057; AAA63639.1; -; Genomic\_DNA.

EMBL; M60058; AAA63639.1; JOINED; Genomic\_DNA.

EMBL; M60056; AAA63639.1; JOINED; Genomic\_DNA.

EMBL; BC058187; AAH58187.1; -; mRNA.

PIR; JN0103; JN0103.

HGSP; P12272; 18ZG.

Ensembl; ENSMUSG00000048776; Mus musculus.

DR MG1; MG1:97800; Pthlh.

GO; GO:0005615; C:extracellular space; TAS.

GO; GO:0005179; F:hormone activity; TAS.

DR

GO: 0048286; P: alveolus development; IMP.

DR

GO: 0030855; P: epithelial cell differentiation; IMP.

DR

GO: 0001501; P: skeletal development; IMP.

DR

GO: 0043129; P: surfactant homeostasis; IMP.

DR

InterPro; IPR001415; Parathyroid\_hrm.

DR

PANTHER; PTHR17223; PTH\_related; 1.

DR

Pfam; PF01279; Parathyroid; 1.

DR

ProDom; PD013225; PTH\_related; 1.

DR

PROSITE; PS00335; PARATHYROID; 1.

KW

Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;

KW

SIGNAL.

FT

SIGNAL

FT

PROPEP

FT

CHAIN

FT

PEPTIDE

FT

MOTIF

FT

SQ

SEQUENCE

Query Match

83.5%; Score 616; DB 1; Length 175;

Best Local Similarity

86.5%; Pred. No. 1.4e-43;

Matches 122; Conservative 2; Mismatches 15; Indels 2; Gaps 1;

Qy

1 AVSEHQLLDKKGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNPKNHPVRF 60

Db

37 AVSEHQLLDKKGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNPKNHPVRF 96

Qy

61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120

Db

97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 154

Qy

121 LEGDHLSDTSTTSLELDSRRH 141

Db

155 LLEDPLPHTSRTSLEPSLRTH 175

Search completed: December 2, 2005, 23:19:30

Job time : 399.307 secs

RESULT 15

Q540C1\_MOUSE PRELIMINARY; PRT; 175 AA.

AC

Q540C1;

DT

13-SEP-2005 (TrEMBLrel. 31, Created)

DT

13-SEP-2005 (TrEMBLrel. 31, Last sequence update)

DT

13-SEP-2005 (TrEMBLrel. 31, Last annotation update)

DE

Parathyroid hormone-related protein precursor.

GN

Name=Pthlh; Synonyms=Pthlp;

OS

Mus musculus (Mouse).

OC

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC

Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;

OC

Muridae; Murinae; Mus.

OX

NCBI\_TaxID=10090;

OX

[1]

RN

NUCLEOTIDE SEQUENCE.

RP

STRAIN=C57BL/6;

RA

Toribio R.E., Rourke K., Levine A., Kohn C.W., Rosol T.J.;

RT

"Molecular cloning of the cDNA for Mus musculus parathyroid hormone-related protein (PTHrP).";

RL

Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.

DR

EMBL; AY220497; AAC64343.1; -; mRNA.

DR

MGI; MGI:97800; Pthlh.

DR

GO; GO:0005615; C:extracellular space; TAS.

DR

GO; GO:0005179; F:hormone activity; TAS.

DR

GO; GO:0048286; P:alveolus development; IMP.

DR

GO; GO:0030855; P:epithelial cell differentiation; IMP.

DR

GO; GO:0001501; P:skeletal development; IMP.

DR

GO; GO:0043129; P:surfactant homeostasis; IMP.

KW

SIGNAL.

FT

SIGNAL

FT

CHAIN

SQ

SEQUENCE

Query Match

83.5%; Score 616; DB 2; Length 175;

Best Local Similarity

86.5%; Pred. No. 1.4e-43;

Matches 122; Conservative 2; Mismatches 15; Indels 2; Gaps 1;

Qy

1 AVSEHQLLDKKGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNPKNHPVRF 60

Db

37 AVSEHQLLDKKGSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSNPKNHPVRF 96

Qy

61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120

Db

97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 154

Qy

121 LEGDHLSDTSTTSLELDSRRH 141

Db

155 LLEDPLPHTSRTSLEPSLRTH 175

Search completed: December 2, 2005, 23:19:30

Job time : 399.307 secs

**This Page Blank (uspto)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 23:04:13 ; Search time 61.7865 Seconds  
(without alignments)  
219.572 Million cell updates/sec

Title: US-10-691-125-1

Perfect score: 738

Sequence: 1 AVSEHQLLHDKGKSIQLRR.....EGDHLSDTSTTSLDLSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR\_80.\*

1: pir1.\*

2: pir2.\*

3: pir3.\*

4: pir4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	738	100.0	177	1 PTHU2L	parathyroid hormon
2	725	98.2	209	1 PTHU3L	parathyroid hormon
3	682	92.4	177	2 JC4201	parathyroid hormon
4	628	85.1	177	1 A30012	parathyroid hormon
5	616	83.5	175	1 JN0103	parathyroid hormon
6	521	70.6	176	1 S10202	parathyroid hormon
7	93	12.6	749	2 A45294	Balbani ring 2.1
8	91	12.3	1271	2 T24008	hypothetical prote
9	89	12.1	339	2 T04900	hypothetical prote
10	89	12.1	2664	2 T28626	variant-specific s
11	88.5	12.0	415	2 JC8023	nuclear NF-kB acti
12	87	11.8	780	2 S62480	pumilio domain con
13	86.5	11.7	222	2 T28919	hypothetical prote
14	86	11.7	643	2 A97234	ABC-type transport
15	85	11.5	218	2 T26826	hypothetical prote
16	85	11.5	925	2 S50490	hypothetical prote
17	84.5	11.4	568	1 RRNZ35	polymerase-associ
18	84	11.4	853	2 T51505	hypothetical prote
19	84	11.4	888	2 T25713	hypothetical prote
20	83.5	11.3	678	2 A54514	glutamic acid-rich
21	83.5	11.3	754	2 S63231	hypothetical prote
22	83.5	11.3	3147	2 T18674	hypothetical prote
23	82	11.1	374	2 C88734	protein F32E10.6 f
24	81.5	11.0	568	1 RRNZ83	polymerase-associ
25	81.5	11.0	691	2 T24438	hypothetical prote
26	81	11.0	273	2 A31215	histone H1-like pr
27	81	11.0	598	2 B40713	cyclicin I - human
28	81	11.0	754	1 JCS314	CDC28/cdc2-like ki
29	80.5	10.9	497	2 T40586	nucleolar protein

## ALIGNMENTS

### RESULT 1

#### PTHU2L

parathyroid hormone-related protein precursor, splice form 2 - human

N;Alternate names: parathyroid hormone-like protein

N;Contains: parathyroid hormone-related protein, splice form 1; parathyroid hormone-rela

C;Species: Homo sapiens (man)

C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text change 09-Jul-2004

C;Accession: A33360; B33360; A28120; A94295; B94295; A36166; A91606; A28034; A36512; JSO

R;Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.

J. Biol. Chem. 264, 7720-7725, 1989

A;Title: Characterization of the human parathyroid hormone-like peptide gene. Functional

A;Reference number: A33360; MUID:89214227; PMID:2708388

A;Accession: A33360

A;Molecule type: DNA

A;Residues: 1-175 <YAS>

A;Cross-references: UNIPROT:P12272; UNIPARC:UPI000002B1CC; GB:M24349; GB:J04710; NID:g19

A;Accession: B33360

A;Molecule type: DNA

A;Residues: 176-177 <VAS2>

A;Cross-references: UNIPARC:UPI000001734EA; GB:J04710

R;Mangin, M.; Webb, A.C.; Dreyer, B.E.; Fosllilico, J.T.; Ikeda, K.; Weir, E.C.; Stewart,

Proc. Natl. Acad. Sci. U.S.A. 85, 597-601, 1988

A;Title: Identification of a cDNA encoding a parathyroid hormone-like peptide from a hum

A;Reference number: A28120; MUID:88124888; PMID:2829195

A;Accession: A28120

A;Molecule type: mRNA

A;Residues: 1-177 <MAN>

A;Cross-references: UNIPARC:UPI0000047E25; EMBL:J03580

R;Suva, L.J.; Winslow, G.A.; Wettenhall, R.E.H.; Hammonds, R.G.; Moseley, J.M.; Diefenba

Science 237, 893-896, 1987

A;Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; cl

A;Reference number: A94295; MUID:87292119; PMID:3616618

A;Accession: A94295

A;Molecule type: mRNA

A;Residues: 1-177 <SU1>

A;Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:g190725; PIDN:AAA60221.1; PID

A;Accession: B94295

A;Molecule type: protein

A;Residues: 37-70,'X',72-84,'X',86;103-115 <SU2>

A;Cross-references: UNIPARC:UPI00001734EB; UNIPARC:UPI00001734EC

R;Thiede, M.A.; Strewler, G.J.; Nissen, R.A.; Rosenblatt, M.; Rodan, G.A.

Proc. Natl. Acad. Sci. U.S.A. 85, 4605-4609, 1988

A;Title: Human renal carcinoma expresses two messages encoding a parathyroid hormone-like

A;Reference number: A36166; MUID:88262996; PMID:3290897

A;Accession: A36166

A;Molecule type: mRNA

A;Residues: 1-175 <TH1>

A;Cross-references: UNIPARC:UPI000002B1CC; GB:J03802; NID:g190717; PIDN:AAA60218.1; PID:

R;Suva, L.J.; Mather, K.A.; Gillespie, M.T.; Webb, G.C.; Ng, K.W.; Winslow, G.A.; Wood,

Gene 77, 95-105, 1989

A;Title: Structure of the 5' flanking region of the gene encoding human parathyroid-horm

A;Reference number: A91606; MUID:89306685; PMID:2744490



A;Residues: 1-177 <KAR>  
A;Cross-references: UNIPROT:P13085; UNIPARC:UPI0000132905; GB:M34112; NID:g206229; PIDN:  
A;Note: the authors translated the codon TAC for residue 114 as Thr  
R;Yasuda, T.; Banville, D.; Rabbani, S.A.; Hendy, G.N.; Goltzman, D.  
Mol. Endocrinol. 3, 518-525, 1989  
A;Title: Rat parathyroid hormone-like peptide: comparison with the human homologue and e  
A;Reference number: A34944; MUID:89313794; PMID:2747658  
A;Accession: A34944  
A;Molecule type: mRNA  
A;Residues: 1-177 <YAS>  
A;Cross-references: UNIPARC:UPI0000132905; GB:M31603; NID:g206486; PIDN:AAA41980.1; PID:  
R;Thiede, M.A.; Rodan, G.A.  
Science 242, 278-280, 1988  
A;Title: Expression of a calcium-mobilizing parathyroid hormone-like peptide in lactatin  
A;Reference number: A30012; MUID:89019361; PMID:3175653  
A;Accession: A30012  
A;Molecule type: mRNA  
A;Residues: 1-177 <THI>  
A;Cross-references: UNIPARC:UPI0000132905; EMBL:M21967; NID:g206488; PIDN:AAA41981.1; PI  
R;Solfer, N.E.; Dee, K.E.; Insogna, K.L.; Burtis, W.J.; Matovicik, L.M.; Wu, T.L.; Milsted  
J. Biol. Chem. 267, 18236-18243, 1992  
A;Title: Parathyroid hormone-related protein. Evidence for secretion of a novel mid-regi  
A;Reference number: A43416; MUID:92388199; PMID:15117251  
A;Accession: A43416  
A;Molecule type: protein  
A;Residues: 'X', 75-84, 'S', 86-90, 'X', 92-93, 'X', 95-101, 'X', 103-105, 'X', 107 <SOI>  
A;Cross-references: UNIPARC:UPI0000055C38  
A;Experimental source: RIN-141 cells  
A;Note: sequence extracted from NCBI backbone (NCBIP:112971)  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
F;1-36/Domain: signal sequence #status predicted <SIG>  
F;35-69/Domain: parathyroid hormone homology <PTH>  
F;37-177/Product: parathyroid hormone-like protein #status predicted <MAT>  
F;73-74/Cleavage site: Arg-Ala (unidentified proteinase) #status experimental

Query Match 85.1%; Score 628; DB 1; Length 177;  
Best Local Similarity 88.2%; Pred. No. 8.2e-46;  
Matches 127; Conservative 2; Mismatches 9; Indels 6; Gaps 3;  
Qy 1 AVSEHQLLDKSGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKHPVRFG 60  
Db 37 AVSEHQLLDKSGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKHPVRFG 96  
Qy 61 SDDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRRTSAMLDSGVTCG 120  
Db 97 SDDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRRTSAMLDSGVTCG 154  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 155 LLEDPLPHTSPTS-TSLPSSRTH 177

RESULT 5  
JN0103  
parathyroid hormone-related peptide precursor - mouse  
C;Species: Mus musculus (house mouse)  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: JN0103  
R;Mangin, M.; Ikeda, K.; Broadus, A.E.  
Gene 95, 195-202, 1990  
A;Title: Structure of the mouse gene encoding parathyroid hormone-related peptide.  
A;Reference number: JN0103; MUID:91065532; PMID:2249778  
A;Accession: JN0103  
A;Molecule type: DNA  
A;Residues: 1-175 <MAN>  
A;Cross-references: UNIPROT:P22858; UNIPARC:UPI00000299AE; GB:M60057; GB:M34098; NID:g20  
C;Comment: The normal role of the parathyroid hormone-related peptide is unknown.  
C;Genetics:  
A;introns: 34/2; 173/2  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
F;1-24/Domain: signal sequence #status predicted <SIG>  
F;25-36/Domain: propeptide #status predicted <PRO>  
F;35-69/Domain: parathyroid hormone homology <PTH>

F;37-175/Product: parathyroid hormone-related peptide #status predicted <MAT>  
Query Match 83.5%; Score 616; DB 1; Length 175;  
Best Local Similarity 86.5%; Pred. No. 8.3e-45;  
Matches 122; Conservative 2; Mismatches 15; Indels 2; Gaps 1;  
Qy 1 AVSEHQLLDKSGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKHPVRFG 60  
Db 37 AVSEHQLLDKSGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKHPVRFG 96  
Qy 61 SDDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRRTSAMLDSGVTCG 120  
Db 97 SDDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRRTSAMLDSGVTCG 154  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 155 LLEDPLPHTSPTSLEPSLRTH 175

RESULT 6  
S10202  
parathyroid hormone-related protein precursor - chicken  
C;Species: Gallus gallus (chicken)  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: S10202  
R;Thiede, M.A.; Rutledge, S.J.  
Nucleic Acids Res. 18, 3062, 1990  
A;Title: Nucleotide sequence of a parathyroid hormone-related peptide expressed by the  
A;Reference number: S10202; MUID:90272428; PMID:2349111  
A;Accession: S10202  
A;Molecule type: mRNA  
A;Residues: 1-176 <THI>  
A;Cross-references: UNIPROT:P17251; UNIPARC:UPI0000132902; EMBL:X52131; NID:g62973; PIDN:  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C;Keywords: Glycoprotein; hormone  
F;1-25/Domain: signal sequence #status predicted <SIG>  
F;26-37/Domain: propeptide #status predicted <PRO>  
F;36-70/Domain: parathyroid hormone homology <PTH>  
F;38-176/Product: parathyroid hormone-related protein #status predicted <MAT>  
F;110,157/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 70.6%; Score 521; DB 1; Length 176;  
Best Local Similarity 75.9%; Pred. No. 8e-37;  
Matches 101; Conservative 12; Mismatches 20; Indels 0; Gaps 0;  
Qy 1 AVSEHQLLDKSGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKHPVRFG 60  
Db 38 AVSEHQLLDKSGSIQDLRRRFFLQNLIEGVNTAEIRATSEVSPNPKPATNTKHPVRFG 97  
Qy 61 SDDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRRTSAMLDSGVTCG 120  
Db 98 SEDEGRYLTOETNKVETKQPLTPGKKKGKPKGKKEQKKRARSAMLNSGMYG 157  
Qy 121 LEGDHLSDTSTTS 133  
Db 158 VTESPVLDSVTT 170

RESULT 7  
A45294  
Balbiani ring 2.1 - midge (Chironomus tentans) (fragment)  
C;Species: Chironomus tentans  
C;Date: 25-Mar-1993 #sequence\_revision 18-Nov-1994 #text\_change 05-Oct-2004  
C;Accession: A45294  
R;Wieslander, L.; Paulsson, G.  
Proc. Natl. Acad. Sci. U.S.A. 89, 4578-4582, 1992  
A;Title: Sequence organization of the Balbiani ring 2.1 gene in Chironomus tentans.  
A;Reference number: A45294; MUID:92262483; PMID:1584794  
A;Accession: A45294  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-749 <WIE>  
A;Cross-references: UNIPROT:Q23804; UNIPARC:UPI0000076483; GB:M89909; NID:g156605; PIDN:





RESULT 14

RESULT 14

A97234  
ABC-type transporter, duplicate ATPase component CAC2714 [imported] - Clostridium acetob  
C:Species: Clostridium acetobutylicum  
C:Date: 14-Sep-2001 #sequence\_revision 14-Sep-2001 #text\_change 31-Dec-2004  
C:Accession: A97234  
R:Nolling, J.; Brston, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee,  
; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.  
J. Bacteriol. 183, 4823-4836, 2001  
A:Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clo  
A:Reference number: A96900; MUID:21359325; PMID:21359325  
A:Accession: A97234  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-643 <KUD>  
A:Cross-references: UNIPROT:Q97FM2; UNIPARC:UPI000000CA5F1; GB:AE001437; PIDN:AAK80660.1;  
A:Experimental source: Clostridium acetobutylicum ATCC824  
C:Genetics:  
A:Gene: CAC2714

Query Match	11.7%	Score 86;	DB 2;	Length 643;
Best Local Similarity	26.5%;	Pred. No. 11;		
Matches	27;	Conservative 19;	Mismatches 40;	Indels 16; Gaps 2;
Qy	4	EQHLLHDKGSKIQDLRRPFLLHLLIAIHIAETRAATSEVSPNSKPSNTKXHPVFGSDD	63	
Db	489	EDALLSYDGTVLISHDRYFLNKVSVKLELKENGISEYLGNSYYVTEKKNPNTRFOEE	548	
Qy	64	BGRVLTQETNWKVETKYEQPLKTPGKKKKGPKGKKEQKKR	105	
Db	549	ENKSLKTKT-OINTEPK-----KKREKOKR	574	

RESULT 15  
T26826  
hypothetical protein Y43C5A.4 - *Caenorhabditis elegans*  
C:Species: *Caenorhabditis elegans*  
C:Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004  
C:Accession: T26826  
R:White, S.  
submitted to the EMBL Data Library, June 1998  
A:Reference number: Z20272  
A:Accession: T26826  
A:Status: preliminary; translated from GB/EMBL/DBDJ  
A:Molecule type: DNA  
A:Residues: 1-218 <WTL>  
A:Cross-references: UNIPROT:Q9XXF0; UNIPARC:UPI000000753D2; EMBL:AL023838; PIDD:CAA19504  
A:Experimental source: clone Y43C5A

Query Match	11.5%	Score 85;	DB 2;	Length 218;
Best Local Similarity	23.8%	Pred. No. 4.4;		
Matches	Conservative 20;	Mismatch 42;	Indels 18;	Gaps 2

  

Qy	23	FLHLIAIEHTAE-----	IRATSEVSNSKPSNTKNHVPFGSDDEGRYL	70
		:     :	:     :	
Db	26	FLTVLPIITQAQSKPKGKKK	LSSEHKRSKSENKARNKKKPVLELDTTDEAK	85
		:     :	:     :	
Qy	71	ETNKVETVK-----	EQLPTPGKKKGKPKGRKEQEKKKRTKS	109
		:     :	:     :	
Db	86	EDREKSSKRP	PTAKSSKSKATGSKKKNKTKKPDGSEKKTOT	130
		:     :	:     :	

Search completed: December 2, 2005, 23:29:11  
Job time : 66.7865 secs

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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:03:56 ; Search time 389.73 Seconds  
(without alignments)  
158.962 Million cell updates/sec

Title: US-10-691-125-1

Perfect score: 738

Sequence: 1 AVSEHQLLHDKGKSIQDLRR.....EGDHLSDTSTSLSDLSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_21.\*  
1: Genesep1980s.\*  
2: Genesep1990s.\*  
3: Genesep2000s.\*  
4: Genesep2001s.\*  
5: Genesep2002s.\*  
6: Genesep2003as.\*  
7: Genesep2003bs.\*  
8: Genesep2004s.\*  
9: Genesep2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	738	100.0	141	2	Aaw99452 Human par
2	738	100.0	141	5	AAO14631 Human PTH
3	738	100.0	141	5	ABBO4992 Human par
4	738	100.0	141	5	AAE23749 Human par
5	738	100.0	141	8	ADP04403 Human par
6	738	100.0	141	9	ADW99590 Human par
7	738	100.0	177	1	ADP80303 Sequence
8	738	100.0	177	1	ADP80304 Sequence
9	738	100.0	177	2	AAW12724 PTH-like
10	738	100.0	177	2	AAW12724 PTH-like
11	738	100.0	177	2	AAW12724 PTH-like
12	738	100.0	177	3	AAW12724 PTH-like
13	738	100.0	177	3	AAW12724 PTH-like
14	738	100.0	177	5	ABW74954 Human lun
15	738	100.0	177	5	ABW74955 Human lun
16	738	100.0	177	5	ABP61874 Human lun
17	738	100.0	177	5	ABP61875 Human lun
18	738	100.0	177	7	ADA28256 Human lun
19	738	100.0	177	7	ADA28255 Human lun
20	738	100.0	177	7	ADA28255 Human lun
21	738	100.0	177	7	ADA28255 Human lun
22	738	100.0	177	7	ADH36819 Human lun
23	738	100.0	177	7	ADH36820 Human lun
24	738	100.0	177	8	ADJ36502 Human par

25	738	100.0	177	8	ADL12718 Human ste
26	738	100.0	177	8	ADM56622 Human lun
27	738	100.0	177	8	ADM56623 Human lun
28	738	100.0	177	9	ADU98314 Lung tumo
29	738	100.0	177	9	ADU98315 Lung tumo
30	738	100.0	177	9	AEI10123 Cancer re
31	738	100.0	177	9	AEI10122 Cancer re
32	738	100.0	210	2	AAE25227 Parathyro
33	725	98.2	139	5	AAO14630 Human PTH
34	725	98.2	139	5	ABBO4991 Human par
35	725	98.2	139	5	AAE23750 Human par
36	725	98.2	139	5	ADP04402 Human par
37	725	98.2	173	5	AAO14632 Human PTH
38	725	98.2	173	5	ABBO4993 Human par
39	725	98.2	173	8	ADP04404 Human par
40	725	98.2	175	6	ABU56498 Lung canc
41	725	98.2	175	6	ABU56578 Lung canc
42	725	98.2	175	6	ABR92141 Human cer
43	725	98.2	175	8	ADJ36543 Human pro
44	725	98.2	175	8	ADK98647 Human par
45	725	98.2	175	8	ADU06427 Novel bro

#### ALIGNMENTS

##### RESULT 1

AAW99452  
ID AAW99452 standard; peptide; 141 AA.

XX AAW99452;

AC AAW99452;

DT 08-JUN-1999 (first entry)

DE Human parathyroid hormone related protein.

XX Parathyroid hormone; PTH; parathormone; premature birth; pregnancy;  
KW spontaneous abortion; uterine contraction; human.

XX Homo sapiens.

XX US5880093-A.

XX 09-MAR-1999.

XX 05-APR-1995; 95US-00411726.

XX 09-OCT-1992; 92IT-MI002331.

PR 08-OCT-1993; 93WO-EP002755.

XX (BAGN/) BAGNOLI F.

XX Bagnoli F;

XX WPI; 1994-150943/18.

XX Preventing abortion or premature birth - with parathyroid hormone or its fragments or related peptide(s), which inhibit contractions induced by oxytocin and PGF2 alpha.

XX Disclosure; Col 9-10; 11pp; English.

XX Peptides AAW99448-W99452 represent all or part of the parathyroid hormone (PTH; parathormone) sequence or related peptide. The peptides are used for preventing premature birth, spontaneous abortion or unwanted uterine contractions in a pregnant human patient. (Note: this patent is the first Major Country Equivalent to Italian Patent IT1255388)

XX Sequence 141 AA;

Query Match 100.0%; Score 738; DB 2; Length 141;

Best Local Similarity 100.0%; Pred. No. 5.6e-66;

Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;



```
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
DB 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
QY 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
DB 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
QY 121 LEGDHLSDTSTTSLELDSRRH 141
DB 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 4
AAE23749
ID AAE23749 standard; protein; 141 AA.
AC
XX
XX
DT 10-SEP-2002 (first entry)
XX
XX Human parathyroid related peptide, PTHrP (1-141).
DE
XX Human parathyroid hormone; hPTH; PTH-related peptide; PTHrP; eczema;
KW hyperproliferative skin disorder; psoriasis; ichthyosis; skin cancer;
KW acne; actinic keratosis; alopecia; gene therapy.
XX
XX Homo sapiens.
OS
XX
XX WO200228420-A2.
PN
XX
XX 11-APR-2002.
PD
XX
XX 05-OCT-2001; 2001WO-US031082.
PF
XX
XX 06-OCT-2000; 2000US-0238134P.
PR
XX
XX (HOLI/) HOLICK M F.
PA
XX Holick MF;
FI
XX
XX WPI; 2002-454495/48.
DR
XX
XX Regulating mammalian skin or hair cell proliferation and differentiation
PT by administering nucleic acids encoding peptides derived from N-terminal
PT region of human parathyroid hormone (hPTH) or hPTH-related protein.
XX
PS Claim 5; Fig 35; 56pp; English.
XX
XX The invention relates to a method for regulating proliferation or
CC enhancing differentiation of mammalian skin or hair cell. The method
CC involves administering nucleic acids encoding peptides derived from N-
CC terminal region of human parathyroid hormone (hPTH) or hPTH-related
CC peptide (PTHrP). The method is used for inhibiting hyperproliferative
CC skin disorders such as psoriasis, ichthyosis, eczema, acne, actinic
CC keratosis, skin cancer, for inhibiting hair growth or preventing hair
CC regrowth. It is useful for stimulating cell growth, rejuvenating aged
CC skin, preventing skin wrinkles, treating skin wrinkles, enhancing wound
CC healing, stimulating hair growth, maintaining hair growth, treating or
CC preventing female or male pattern baldness, for treating chemotherapy
CC induced alopecia and also for stimulating epidermal cell growth or hair
CC follicle cell growth. The method is also used in gene therapy. The
CC present sequence is hPTHrP peptide
XX
SQ Sequence 141 AA;
Query Match 100.0%; Score 738; DB 5; Length 141;
Best Local Similarity 100.0%; Pred. No. 5.6e-66;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
```

```
DB 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
QY 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
DB 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
QY 121 LEGDHLSDTSTTSLELDSRRH 141
DB 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 5
ADP04403
ID ADP04403 standard; protein; 141 AA.
XX
XX ADP04403;
AC
XX
XX 12-AUG-2004 (first entry)
DT
XX
XX Human parathyroid hormone-related protein full-length protein variant 2.
DE
XX renal osteodystrophy; low metabolic bone turnover; parathyroid hormone;
KW PTH; osteopathic; aplasia; high calcium food;
KW parathyroid hormone-related protein; PTHrP; human.
XX
XX Homo sapiens.
OS
XX
XX JP2004143107-A.
PN
XX
XX 20-MAY-2004.
PD
XX
XX 25-OCT-2002; 2002JP-00311119.
PF
XX
XX 25-OCT-2002; 2002JP-00311119.
PR
XX
XX (KURE ) KUREHA CHEM IND CO LTD.
XX
XX WPI; 2004-383277/36.
DR
XX
XX Pharmaceutical composition for treating renal osteodystrophy resulting
PT from low metabolic turnover of bone, e.g., bone aphasia, contains
PT polypeptide which has parathyroid hormone activity.
XX
XX
PS Claim 8; SEQ ID NO 12; 23pp; Japanese.
XX
XX The invention relates to a novel pharmaceutical composition for treating
CC renal osteodystrophy resulting from low metabolic turnover of bone, where
CC the composition comprises a polypeptide which has parathyroid hormone
CC (PTH) activity. The composition of the invention demonstrates osteopathic
CC activity and may be useful for treating renal osteodystrophy resulting
CC from low metabolic turnover of bone, such as bone aplasia. The treatment
CC method involves administering the pharmaceutical composition along with
CC high calcium foods and/or calcium pills. The current sequence is that of
CC the human parathyroid hormone-related protein (PTHrP) full-length protein
CC (variant 2) of the invention.
XX
XX Sequence 141 AA;
Query Match 100.0%; Score 738; DB 8; Length 141;
Best Local Similarity 100.0%; Pred. No. 5.6e-66;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
DB 1 AVSEHQLLHDGKSIQDLRRRFFLHLLIAETAEIRATSEVSPNSKPSPTNKNHPVRFG 60
QY 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
DB 61 SDDEGRYLTQETNKVETKQPLKTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120
QY 121 LEGDHLSDTSTTSLELDSRRH 141
DB 121 LEGDHLSDTSTTSLELDSRRH 141
```

```
Db      121 LEGDHLSDTSTTSLELDSRRH 141
RESULT 6
ADW99590
ID      ADW99590 standard; protein; 141 AA.
XX      /
AC      ADW99590;
XX
XX
XX      21-APR-2005 (first entry)
XX      Human parathyroid hormone-related peptide.
XX      recombinant protein; cytotstatic; vaccine; immune stimulation;
XX      immunostimulatory; parathyroid hormone related peptide; tumor;
XX      metastasis.
XX      Homo sapiens.
XX      OS
XX      US2005033023-A1.
XX      PN
XX      10-FEB-2005.
XX      FD
XX      21-OCT-2003; 2003US-00691125.
XX      PF
XX      21-OCT-2002; 2002US-0420165P.
XX      PR
XX      (CORR/) CORREALE P.
XX      (CUII/) CUII M G.
XX      (FRAN/) FRANCINI G.
XX      PI
XX      Correale P, Cusi MG, Francini G;
XX      WPI; 2005-151693/16.
XX      DR
XX      N-ESDB; ADW99598.
XX      Novel isolated immunostimulatory parathyroid hormone related peptide (PTH
XX      -rP), useful for immunizing and treating subjects against metastases and
XX      tumors.
XX      Claim 1; SEQ ID NO 1; 35pp; English.
XX
XX      The invention relates to an isolated immunostimulatory parathyroid
XX      hormone related peptide (PTH-rP) (I) comprising a fragment of the amino
XX      acid sequence of a fully defined sequence (S1) of 141 amino acids as
XX      given in the specification, or its functional variant comprising one or
XX      more amino acid additions, substitution or deletions. (I) is useful for
XX      generating T cells active against PTH-rP expressing tumors and
XX      metastasis, which involves stimulating T cells in the presence of antigen
XX      presenting cells that have been exposed to (I). The antigen presenting
XX      cells have been infected with virosomes containing PTH-rP plasmide,
XX      virosomes encapsulating (I) or virosomes comprising (I) crosslinked to
XX      its surface. (I) is useful for generating a T cell response specific for
XX      PTH-rP, which involves immunizing a subject with (I). The protein, an
XX      epitope from it, DNA encoding it, vectors and host cells are useful for
XX      inducing an immune response against PTH-rP expressing tumors and
XX      metastasis, by immunization. They are useful for treating PTH-rP
XX      expressing tumors and metastasis, immunizing a subject against metastasis
XX      and tumors or for preventing the occurrence or recurrence of PTH-rP
XX      expressing tumors and metastasis. This sequence corresponds to the human
XX      parathyroid hormone-related peptide.
XX      Sequence 141 AA;
XX
XX      Query Match      100.0%; Score 738; DB 9; Length 141;
XX      Best Local Similarity 100.0%; Pred. No. 5.6e-66;
XX      Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX      1 AVSEHQLLDKSGKSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 60
XX      1 AVSEHQLLDKSGKSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 60
XX      61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKRKEQKKRRTRSAWLDGVTGSG 120
XX
XX      121 LEGDHLSDTSTTSLELDSRRH 141
XX      121 LEGDHLSDTSTTSLELDSRRH 141
XX
XX      RESULT 7
XX      AAP80303
XX      ID      AAP80303 standard; protein; 177 AA.
XX      AC      AAP80303;
XX      XX
XX      25-MAR-2003 (revised)
XX      DT      31-OCT-2002 (revised)
XX      DT      03-OCT-1990 (first entry)
XX      XX
XX      Sequence encoded by cDNA clone brf. 52.
XX      cDNA clone brf 52; adenylate cyclase stimulating factor; bone resorption;
XX      parathyroid hormone receptor; humoral hypercalcaemia of malignancy.
XX      Homo sapiens.
XX      OS
XX      WO8809376-A.
XX      PN
XX      01-DEC-1988.
XX      PD
XX      19-MAY-1988; 88WO-US001652.
XX      PF
XX      20-MAY-1987; 87US-00052637.
XX      PR
XX      (GETH ) GENENTECH INC.
XX      PA      (UYME ) UNIV MELBOURNE.
XX      PI
XX      Martin TJ, Suva LJ, Wood WL;
XX      WPI; 1988-353951/49.
XX      DR      N-PSDB; AAP80304.
XX
XX      Recombinant adenylate Cyclase Stimulating factor - used to produce
XX      antibodies for detection and treatment of humoral hypercalcaemia of
XX      malignancy.
XX      Disclosure; Page ?; 48pp; English.
XX
XX      The peptide is encoded by cDNA clone brf. 52, and corresponds to a
XX      sequence of adenylate cyclase stimulating factor (ACSF). It is expressed
XX      by the gene under low stringency conditions. ACSF has parathyroid hormone
XX      receptor binding activity and bone resorbing activity. ACSF antagonists,
XX      neutralising antibody (Ab) for ACSF or immunogens capable of raising
XX      neutralising Ab can be given to ameliorate humoral hypercalcaemia of
XX      malignancy, most commonly breast, lung and skin carcinomas, and may be
XX      used to treat disorders of hyperproliferation of keratinocytes, eg
XX      psoriasis. (Updated on 31-OCT-2002 to add missing OS field.) (Updated on
XX      25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to correct PI
XX      field.)
XX      Sequence 177 AA;
XX
XX      Query Match      100.0%; Score 738; DB 1; Length 177;
XX      Best Local Similarity 100.0%; Pred. No. 7.3e-66;
XX      Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX      1 AVSEHQLLDKSGKSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 60
XX      37 AVSEHQLLDKSGKSIQDLRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 96
XX      61 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKRKEQKKRRTRSAWLDGVTGSG 120
XX      97 SDDEGRYLTOETNKVETKEQPLTPGKKKGKPGKRKEQKKRRTRSAWLDGVTGSG 156
```

QY 121 LEGDHLSDTSTTSLEDSRRH 141  
|||||  
Db 157 LEGDHLSDTSTTSLEDSRRH 177

## RESULT 8

AAAP80304  
ID AAP80304 standard; peptide; 177 AA.

XX AC AAP80304;

XX DT 25-MAR-2003 (revised)

XX DT 04-OCT-1990 (first entry)

XX DE Sequence of human adenylate cyclase stimulating factor.

XX KW Adenylate cyclase stimulating factor; parathyroid hormone.

XX OS Homo sapiens.

XX PN W08809376-A.

XX PD 01-DEC-1988.

XX PF 19-MAY-1988; 88WO-US001652.

XX PR 20-MAY-1987; 87US-00052637.

XX PA (GETH ) GENENTECH INC.

XX PA (UYME ) UNIV MELBOURNE.

XX PI Martin TJ, Suva LJ, Wood WL;

XX DR WPI; 1988-353951/49.

XX PT Recombinant adenylate Cyclase Stimulating factor - used to produce  
XX PT antibodies for detection and treatment of humoral hypercalcaemia of  
XX PT malignancy.

XX PS Disclosure; Page ?; 48pp; English.

XX CC The sequence is of human adenylate cyclase stimulating factor (ACSF),  
XX CC which has areas of homology with human, bovine, porcine and rat  
XX CC parathyroid hormone (PTH). It has PTH receptor binding activity and bone  
XX CC resorbing activity. ACSF antagonists, ACSF neutralising antibodies (Ab)  
XX CC or immunogens capable of raising Ab can be used to ameliorate humoral  
XX CC hypercalcaemia of malignancy, most commonly breast, lung and skin  
XX CC carcinomas, and to treat disorders of hyperproliferation of  
XX CC keratinocytes, e.g. psoriasis. (Updated on 25-MAR-2003 to correct PA  
XX CC field.) (Updated on 25-MAR-2003 to correct PI field.)

XX SQ Sequence 177 AA;

Query Match 100.0%; Score 738; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. NO. 7.3e-66;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLDKGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKNHPVRFG 60

Db 37 AVSEHQLLDKGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKNHPVRFG 96

QY 61 SDDEGRYLTOETNKVETTYKEQPLKTPGKKKGKPGKRKEQKKRTRTSAMLDSGVTGSG 120

Db 97 SDDEGRYLTOETNKVETTYKEQPLKTPGKKKGKPGKRKEQKKRTRTSAMLDSGVTGSG 156

QY 121 LEGDHLSDTSTTSLEDSRRH 141

Db 157 LEGDHLSDTSTTSLEDSRRH 177

## RESULT 9

AAW12724

ID AAW12724 standard; protein; 177 AA.

XX AC AAW12724;

XX DT 25-MAR-2003 (revised)

XX DT 07-JUL-1997 (first entry)

XX DE PTH-like peptide HHM-8.

XX KW PTH-like peptide; parathyroid hormone; parathormone; agonist;  
XX KW adenylate cyclase; humoral hypercalcaemia of malignancy; HHM;  
XX KW tumour marker; cancer; diagnosis.

XX OS Homo sapiens.

XX FH Key Location/Qualifiers

XX FT Peptide 1..36

XX FT Protein /label= Sig\_peptide

XX FT /label= Mat\_protein

XX PN US5605815-A.

XX PD 25-FEB-1997.

XX PF 21-JUN-1994; 94US-00263242.

XX PR 14-MAR-1988; 88US-00167593.

XX PR 18-FEB-1992; 92US-00839722.

XX PA (UYUA ) UNIV YALE.

XX PI Mangin M, Broadus AE, Stewart AF;

XX DR WPI; 1997-153577/14.

XX DR N-FSDB; AAT59700.

XX PT DNA encoding parathyroid hormone-like peptide - for prodn. of recombinant  
XX PT peptide, used to diagnose humoral hypercalcaemia of malignancy.

XX PS Disclosure; Fig 1; 15pp; English.

XX CC Parathyroid hormone (PTH)-like peptide (AAW12724) is an adenylate cyclase  
XX CC -stimulating protein which acts through PTH receptors but which is  
XX CC unrelated genomically to PTH. It is the humoral mediator of humoral  
XX CC hypercalcaemia of malignancy (HHM), which is common in patients with  
XX CC squamous carcinomas or renal, bladder or ovarian carcinomas with  
XX CC little or no evidence of skeletal disease, and can be used as a tumour  
XX CC marker. The PTH-like peptide amino acid sequence was deduced from a DNA  
XX CC clone, HHM-8 (AAT59700), obtd. from SKRC-1 cells; another isolated clone,  
XX CC HHM-4 (AAT59701), coded for a PTH-like peptide (AAW12725) having a  
XX CC different C-terminal sequence. (Updated on 25-MAR-2003 to correct PF  
XX CC field.)

XX SQ Sequence 177 AA;

Query Match 100.0%; Score 738; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 7.3e-66;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLDKGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKNHPVRFG 60

Db 37 AVSEHQLLDKGSIQDLRRRFFLHLIAETAEIRATSEVSPNSKSPNTKNHPVRFG 96

QY 61 SDDEGRYLTOETNKVETTYKEQPLKTPGKKKGKPGKRKEQKKRTRTSAMLDSGVTGSG 120

Db 97 SDDEGRYLTOETNKVETTYKEQPLKTPGKKKGKPGKRKEQKKRTRTSAMLDSGVTGSG 156

QY 121 LEGDHLSDTSTTSLEDSRRH 141

Db 157 LEGDHLSDTSTTSLEDSRRH 177

RESULT 10

```
AAAY41037
ID AAY41037 standard; protein; 177 AA.
AC AAY41037;
XX
XX 07-DEC-1999 (first entry)
XX
XX Human lung tumor antigen L524S variant 1.
XX
XX Human; lung tumor; lung cancer; T cell stimulation.
XX
XX Homo sapiens.
XX
XX WO9947674-A2.
XX
XX 23-SEP-1999.
XX
XX 17-MAR-1999; 99WO-US005798.
XX
XX 18-MAR-1998; 98US-00040802.
XX
XX 18-MAR-1998; 98US-00040984.
XX
XX 27-JUL-1998; 98US-00123912.
XX
XX 27-JUL-1998; 98US-00123933.
XX
XX (CORI-) CORIXA CORP.
XX
XX Reed SG, Wang T;
XX
XX WPI; 1999-571839/48.
XX
XX N-PSDB; AAZ24655.
XX
XX New isolated lung tumor polynucleotides, used to develop products for the
XX treatment, prevention and monitoring the progression of lung cancer.
XX
XX Example 2; Page 140-141; 148pp; English.
XX
XX The invention provides isolated human lung tumor nucleic acids and
XX polypeptides. The polypeptides can be used for the treatment of lung
XX cancer. The polypeptides and polynucleotides can be used to stimulate T
XX cells or antigen presenting cells for use in the treatment of lung
XX cancer. The polypeptides and monoclonal antibodies specific for the
XX polypeptides can also be used to inhibit the development of lung cancer.
XX Agents which bind the polypeptides can be used for detecting lung cancer
XX and for monitoring the progression of lung cancer
XX
XX Sequence 177 AA;
XX
XX Query Match 100.0%; Score 738; DB 2; Length 177;
XX Best Local Similarity 100.0%; Pred. No. 7.3e-66;
XX Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 AVSEHQLLHDGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 60
XX DB 37 AVSEHQLLHDGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 96
XX
XX QY 61 SDDEGRYLTQETNKVETKEQPLKTPGKKKGKPKGKKEQKKRRTSAWLDSGVTGSG 120
XX DB 97 SDDEGRYLTQETNKVETKEQPLKTPGKKKGKPKGKKEQKKRRTSAWLDSGVTGSG 156
XX
XX QY 121 LEGDHLSDTSTTSLELDSRRH 141
XX DB 157 LEGDHLSDTSTTSLELDSRRH 177
XX
XX RESULT 12
XX AAB11323
XX ID AAB11323 standard; protein; 177 AA.
XX
XX AC AAB11323;
XX
XX 21-FEB-2001 (first entry)
XX
XX Human lung cancer-associated protein L524S variant 2.
XX
XX Lung cancer; therapy; treatment; human; tumor; immunogenic; cytostatic;
XX vaccine; detection.
XX
XX Homo sapiens.
XX
XX OS
XX WO200061612-A2.
XX
XX
```

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```
AAAY41037
ID AAY41037 standard; protein; 177 AA.
AC AAY41037;
XX
XX 07-DEC-1999 (first entry)
XX
XX Human lung tumor antigen L524S variant 1.
XX
XX Human; lung tumor; lung cancer; T cell stimulation.
XX
XX Homo sapiens.
XX
XX WO9947674-A2.
XX
XX 23-SEP-1999.
XX
XX 17-MAR-1999; 99WO-US005798.
XX
XX 18-MAR-1998; 98US-00040802.
XX
XX 18-MAR-1998; 98US-00040984.
XX
XX 27-JUL-1998; 98US-00123912.
XX
XX 27-JUL-1998; 98US-00123933.
XX
XX (CORI-) CORIXA CORP.
XX
XX Reed SG, Wang T;
XX
XX WPI; 1999-571839/48.
XX
XX N-PSDB; AAZ24655.
XX
XX New isolated lung tumor polynucleotides, used to develop products for the
XX treatment, prevention and monitoring the progression of lung cancer.
XX
XX Example 2; Page 140-141; 148pp; English.
XX
XX The invention provides isolated human lung tumor nucleic acids and
XX polypeptides. The polypeptides can be used for the treatment of lung
XX cancer. The polypeptides and polynucleotides can be used to stimulate T
XX cells or antigen presenting cells for use in the treatment of lung
XX cancer. The polypeptides and monoclonal antibodies specific for the
XX polypeptides can also be used to inhibit the development of lung cancer.
XX Agents which bind the polypeptides can be used for detecting lung cancer
XX and for monitoring the progression of lung cancer
XX
XX Sequence 177 AA;
XX
XX Query Match 100.0%; Score 738; DB 2; Length 177;
XX Best Local Similarity 100.0%; Pred. No. 7.3e-66;
XX Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 AVSEHQLLHDGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 60
XX DB 37 AVSEHQLLHDGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKNHPVRF 96
XX
XX QY 61 SDDEGRYLTQETNKVETKEQPLKTPGKKKGKPKGKKEQKKRRTSAWLDSGVTGSG 120
XX DB 97 SDDEGRYLTQETNKVETKEQPLKTPGKKKGKPKGKKEQKKRRTSAWLDSGVTGSG 156
XX
XX QY 121 LEGDHLSDTSTTSLELDSRRH 141
XX DB 157 LEGDHLSDTSTTSLELDSRRH 177
XX
XX RESULT 11
XX AAY41038
XX ID AAY41038 standard; protein; 177 AA.
XX
XX AC AAY41038;
XX
XX 07-DEC-1999 (first entry)
XX
XX Human lung tumor antigen L524S variant 2.
XX
```



Pf	XX	03-APR-2000; 2000WO-US008896.
Pr	XX	02-APR-1999; 99US-00285479.
Pr	XX	17-DEC-1999; 99US-00466396.
Pr	XX	30-DEC-1999; 99US-00476496.
Pr	XX	10-JAN-2000; 2000US-00480884.
Pr	XX	22-FEB-2000; 2000US-00510376.
Fa	(CORI-) CORIXA CORP.	
Wang T, Fan L;		
WPI; 2000-628399/60.		
N-PSDB; AAC65895.		
Isolated polypeptide comprising an immunogenic portion of a lung tumor protein is used for detecting and monitoring progression of lung cancer in a patient.		
Claim 3; Page 174; 261pp; English.		
This invention describes a novel isolated polypeptide (I) which comprising an immunogenic portion of a lung tumor protein or variant (P2) which have cytostatic activity. The polypeptides and polynucleotides are used in compositions and vaccines to inhibit the development of cancer, especially lung cancer, in a patient. Methods described in the invention can be used to monitor the progression of a cancer by carrying out the detection at subsequent time points and comparing the results from the different time points. CD4+ and/or CD8+ T-Cells isolated from a patient are treated with P2, polynucleotides encoding P2 or antigen presenting cells expressing P2 and then administered to the patient to inhibit development of cancer		
Sequence 177 AA;		
Query Match	100.0%; Score 738; DB 3; Length 177;	
Best Local Similarity	100.0%; Pred. No. 7.3e-66;	
Matches 141; Conservative	0; Mismatches 0; Indels 0; Gaps 0;	
Qy	1 AVSEHQLLHDKGKSIQDLRRFFLHLIAEIHAEIRATSEVSPNSKPSPNTKNHPVRFG 60	
Db	37 AVSEHQLLHDKGKSIQDLRRFFLHLIAEIHAEIRATSEVSPNSKPSPNTKNHPVRFG 96	
Qy	61 SDDEGRYLTQTNKVEYKEOPLTPGKKKGPKGRKEQKKRKRTSAWLDSGVGTSG 120	
Db	97 SDDEGRYLTQTNKVEYKEOPLTPGKKKGPKGRKEQKKRKRTSAWLDSGVGTSG 156	
Qy	121 LEGDHLSDTSTTSLELDSRH 141	
Db	157 LEGDHLSDTSTTSLELDSRH 177	
RESULT 14		
AAB11322		
ID AAB11322 standard; protein; 177 AA.		
AC AAB11322;		
DT 21-FEB-2001 (first entry)		
Human lung cancer-associated protein L524S variant 1.		
Lung cancer; therapy; treatment; human; tumor; immunogenic; cytostatic; vaccine; detection.		
Homo sapiens.		
WO2000061612-A2.		
19-OCT-2000.		

```
PR 28-JUN-2000; 2000US-00606421.
PR 02-AUG-2000; 2000US-00630940.
PR 21-AUG-2000; 2000US-00643597.
PR 15-SEP-2000; 2000US-00643597.
PR 15-SEP-2000; 2000US-00662786.
PR 09-OCT-2000; 2000US-00685696.
PR 12-DEC-2000; 2000US-00735705.
PR 07-MAY-2001; 2001US-00850716.
XX
XX (CORI-) CORIXA CORP.
XX
XX Wang T, Wang A, Skeiky YAW, Li SX, Kalos MD, Henderson RA;
PI McNeill PD, Fanger N, Retter MW, Marnerakis M, Fanger GR;
PI Vedvick TS, Carter D, Watanabe Y, Peckham DW;
XX
XX WPI: 2002-090513/12.
DR N-PSDB; ABL49113.
XX
XX Polynucleotides encoding lung tumor polypeptides, useful for treating
PT lung cancer or stimulating an immune response.
XX
XX Example 2; Page 256-257; 374pp; English.
XX
XX The present invention describes human lung tumour proteins. Human lung
CC tumour proteins and polynucleotides have cytostatic and immunostimulant
CC activities, and can be used in vaccine production. Compositions
CC comprising the lung tumour proteins, polynucleotides, antibodies, fusion
CC proteins, T cell populations, or antigen presenting cells that express
CC the lung tumour proteins are useful for treating lung cancer or
CC stimulating an immune response. ABL48959 to ABL49300 and ABB74946 to
CC ABB75070 represent sequences used in the exemplification of the present
CC invention
XX
XX Sequence 177 AA;
SQ
Query Match 100.0%; Score 738; DB 5; Length 177;
Best Local Similarity 100.0%; Pred. No. 7.3e-66;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEIHAEIRATSEVSPNSKPSPTNKNHPVRF 60
DB 37 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEIHAEIRATSEVSPNSKPSPTNKNHPVRF 96
QY 61 SDDGRLYTQETNKNVETKYQPLTPGKKKKGPKRKEQKKRRTRSAWLDGVTGSG 120
DB 97 SDDGRLYTQETNKNVETKYQPLTPGKKKKGPKRKEQKKRRTRSAWLDGVTGSG 156
QY 121 LEGDHLSDTSTTSLELDSRRH 141
DB 157 LEGDHLSDTSTTSLELDSRRH 177
Search completed: December 2, 2005, 23:27:47
Job time : 395.73 secs
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PR 28-JUN-2000; 2000US-00606421.
PR 02-AUG-2000; 2000US-00630940.
PR 21-AUG-2000; 2000US-00643597.
PR 15-SEP-2000; 2000US-00643597.
PR 15-SEP-2000; 2000US-00662786.
PR 09-OCT-2000; 2000US-00685696.
PR 12-DEC-2000; 2000US-00735705.
PR 07-MAY-2001; 2001US-00850716.
XX
XX (CORI-) CORIXA CORP.
XX
XX Wang T, Wang A, Skeiky YAW, Li SX, Kalos MD, Henderson RA;
PI McNeill PD, Fanger N, Retter MW, Marnerakis M, Fanger GR;
PI Vedvick TS, Carter D, Watanabe Y, Peckham DW;
XX
XX WPI: 2002-090513/12.
DR N-PSDB; ABL49113.
XX
XX Polynucleotides encoding lung tumor polypeptides, useful for treating
PT lung cancer or stimulating an immune response.
XX
XX Example 2; Page 256-257; 374pp; English.
XX
XX The present invention describes human lung tumour proteins. Human lung
CC tumour proteins and polynucleotides have cytostatic and immunostimulant
CC activities, and can be used in vaccine production. Compositions
CC comprising the lung tumour proteins, polynucleotides, antibodies, fusion
CC proteins, T cell populations, or antigen presenting cells that express
CC the lung tumour proteins are useful for treating lung cancer or
CC stimulating an immune response. ABL48959 to ABL49300 and ABB74946 to
CC ABB75070 represent sequences used in the exemplification of the present
CC invention
XX
XX Sequence 177 AA;
SQ
Query Match 100.0%; Score 738; DB 5; Length 177;
Best Local Similarity 100.0%; Pred. No. 7.3e-66;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEIHAEIRATSEVSPNSKPSPTNKNHPVRF 60
DB 37 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEIHAEIRATSEVSPNSKPSPTNKNHPVRF 96
QY 61 SDDGRLYTQETNKNVETKYQPLTPGKKKKGPKRKEQKKRRTRSAWLDGVTGSG 120
DB 97 SDDGRLYTQETNKNVETKYQPLTPGKKKKGPKRKEQKKRRTRSAWLDGVTGSG 156
QY 121 LEGDHLSDTSTTSLELDSRRH 141
DB 157 LEGDHLSDTSTTSLELDSRRH 177
RESULT 15
ABB74955
ID ABB74955 standard; protein; 177 AA.
XX
XX ABB74955;
XX
XX 01-MAY-2002 (first entry)
XX
XX Human lung tumour L524S variant protein sequence SEQ ID NO:166.
XX
XX Human; lung tumour; lung cancer; cytostatic; immunostimulant; vaccine;
XX immune response.
XX
XX Homo sapiens.
XX
XX WO200200174-A2.
XX
XX 03-JAN-2002.
XX
XX 28-JUN-2001; 2001WO-US021065.
XX
XX 28-JUN-2000; 2000US-00606421.
XX
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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:03:56 ; Search time 24.8764 Seconds  
(without alignments)  
158.962 Million cell updates/sec

Title: US-10-691-125-2

Perfect score: 46

Sequence: 1 AVSEHQLLH 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_21.\*

- 1: Geneseqp1980s.\*
- 2: Geneseqp1990s.\*
- 3: Geneseqp2000s.\*
- 4: Geneseqp2001s.\*
- 5: Geneseqp2002s.\*
- 6: Geneseqp2003as.\*
- 7: Geneseqp2003bs.\*
- 8: Geneseqp2004s.\*
- 9: Geneseqp2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	46	100.0	9	3 AAB01864	Aab01864 PTH(1-14)
2	46	100.0	9	3 AAY97062	Aay97062 PTH-rp N-
3	46	100.0	9	9 ADW99591	Adw99591 Human par
4	46	100.0	10	8 ADJ36544	Adj36544 Parathyro
5	46	100.0	12	2 AAW45785	Aaw45785 Parathyro
6	46	100.0	14	3 AAB01860	Aab01860 Human par
7	46	100.0	14	4 AAB96895	Aab96895 Human par
8	46	100.0	14	4 AAB84774	Aab84774 Native pa
9	46	100.0	16	1 AAP82548	Aap82548 (Asn10) P
10	46	100.0	17	1 AAP82549	Aap82549 (Glu8, As
11	46	100.0	19	2 AAR41444	Aar41444 Synthetic
12	46	100.0	21	2 AAR69061	Aar69061 Met-hPTHr
13	46	100.0	24	1 AAP80301	Aap80301 Sequence
14	46	100.0	24	1 AAP81358	Aap81358 Sequence
15	46	100.0	29	5 AAB01864	Aau73164 Parathyro
16	46	100.0	29	8 ADQ75479	Adq75479 PTH/PTHrP
17	46	100.0	30	5 AAU73167	Aau73167 Parathyro
18	46	100.0	30	5 AAU73091	Aau73091 Parathyro
19	46	100.0	30	5 AAU73149	Aau73149 Parathyro
20	46	100.0	30	5 AAU73157	Aau73157 Parathyro
21	46	100.0	30	5 AAU73165	Aau73165 Parathyro
22	46	100.0	30	5 AAU73159	Aau73159 Parathyro
23	46	100.0	30	5 AAU73148	Aau73148 Parathyro
24	46	100.0	30	5 AAU73163	Aau73163 Parathyro

#### ALIGNMENTS

RESULT 1

AAB01864

ID AAB01864 standard; peptide; 9 AA.

XX AAB01864;

AC AAB01864;

DT 11-SEP-2000 (first entry)

XX PTH(1-14)/PTHrP(1-14)-derived peptide, SEQ ID NO:8.

DE PTH(1-14)/PTHrP(1-14)-derived peptide, SEQ ID NO:8.

XX Parathyroid hormone peptide; PTH; PTH-related peptide; PTHrP;

KW calcium homeostasis; PTH-1 receptor; PTH-2; vitamin D synthesis;

KW bone synthesis; agonist; osteoporosis; non-parenteral delivery.

XX Homo sapiens.

OS Synthetic.

XX WO200023594-A1.

PD 27-APR-2000.

XX 20-OCT-1999; 99WO-US024481.

XX 22-OCT-1998; 98US-0105530P.

PR (GARD/) GARDELLA T J.

PA (KRON/) KRONENBERG H M.

PA (POTT/) POTTS J T.

PA (JUEP/) JUEPPNER H.

XX Gardella TJ, Kronenberg HM, Potts JT, Jueppner H;

XX WPI; 2000-339693/29.

DR Parathyroid hormone (PTH) peptides, PTH related peptides and the nucleic

XX acids that encode them, useful for treating osteoporosis.

PT Disclosure; Page 26; 73pp; English.

XX The invention relates to a novel parathyroid hormone (PTH) peptide

XX (AAB01859) and parathyroid hormone-related peptide (PTHrP; AAB01860), and

CC biologically active derivatives thereof (AAB01857-B01858, AAB01861-

CC B01863). The peptides of the invention are at least 85% identical to the

CC generic peptide of the formula: X1-Val-Ser-Glu-X2-Gln-Leu-X3-His-X4-X5-

CC Gly-Lys-X6 (AAB01857) where: X1 is Ser or Ala; X2 is Ile or Lys; X3 is

CC Met, Leu or Nle; X4 is Asn or Asp; X5 is Leu or Lys; X6 is His or Ser;

CC provided that the peptide is not PTHrP(1-14). The peptides of the

Aau73150 Parathyro  
Aau73161 Parathyro  
Aau73147 Parathyro  
Aau73168 Parathyro  
Aau73088 Parathyro  
Aau73160 Parathyro  
Aau73166 Parathyro  
Aau73146 Parathyro  
Aau73156 Parathyro  
Aau73169 Parathyro  
Adq75484 PTH/PTHrP  
Adq75465 PTH/PTHrP  
Adq75474 PTH/PTHrP  
Adq75483 PTH/PTHrP  
Adq75462 PTH/PTHrP  
Adq75461 PTH/PTHrP  
Adq75482 PTH/PTHrP  
Adq75403 PTH/PTHrP  
Adq75463 PTH/PTHrP  
Adq75472 PTH/PTHrP  
Adq75476 PTH/PTHrP

25 46 100.0 30 5 AAU73150  
26 46 100.0 30 5 AAU73161  
27 46 100.0 30 5 AAU73147  
28 46 100.0 30 5 AAU73168  
29 46 100.0 30 5 AAU73088  
30 46 100.0 30 5 AAU73160  
31 46 100.0 30 5 AAU73166  
32 46 100.0 30 5 AAU73146  
33 46 100.0 30 5 AAU73156  
34 46 100.0 30 5 AAU73169  
35 46 100.0 30 8 ADQ75484  
36 46 100.0 30 8 ADQ75465  
37 46 100.0 30 8 ADQ75474  
38 46 100.0 30 8 ADQ75483  
39 46 100.0 30 8 ADQ75462  
40 46 100.0 30 8 ADQ75461  
41 46 100.0 30 8 ADQ75482  
42 46 100.0 30 8 ADQ75403  
43 46 100.0 30 8 ADQ75463  
44 46 100.0 30 8 ADQ75472  
45 46 100.0 30 8 ADQ75476



CC metastasis, which involves stimulating T cells in the presence of antigen  
 CC presenting cells that have been exposed to (I). The antigen presenting  
 CC cells have been infected with virosmes containing PTH-rp plasmids,  
 CC virosmes encapsulating (I) or virosmes comprising (I) crosslinked to  
 CC its surface. (I) is useful for generating a T cell response specific for  
 CC PTH-rp, which involves immunizing a subject with (I). The protein, an  
 CC epitope from it, DNA encoding it, vectors and host cells are useful for  
 CC inducing an immune response against PTH-rp expressing tumors and  
 CC metastasis, by immunization. They are useful for treating PTH-rp  
 CC expressing tumors and metastasis, immunizing a subject against metastasis  
 CC and tumors or for preventing the occurrence or recurrence of PTH-rp  
 CC expressing tumors and metastasis. This sequence corresponds to a peptide  
 CC from the human PTH-rp protein.

XX Sequence 9 AA;

Query Match 100.0%; Score 46; DB 9; Length 9;  
 Best Local Similarity 100.0%; Pred. No. 2e+06;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
 |||||  
 Db 1 AVSEHQQLLH 9

RESULT 4

ID ADJ36544 standard; peptide; 10 AA.

XX ADJ36544;

XX 22-APR-2004. (first entry)

XX Parathyroid hormone related peptide N-terminus.

XX parathyroid hormone related peptide; PTH; angiogenesis; apoptosis;  
 KW endothelial cell; protein kinase A catalytic subunit; restenosis;  
 KW atherosclerosis; cancer; tumour metastasis; fibrosis; haemangioma;  
 KW lymphoma; leukaemia; psoriasis; arthritis; diabetes;  
 KW amyotrophic lateral sclerosis; graft rejection; retinopathy;  
 KW macular degeneration; retinal tearing; autoimmune disease; Lupus;  
 KW Crohn's disease; multiple sclerosis.

XX Unidentified.

XX WO2004001384-A2.

XX 31-DEC-2003.

XX 25-JUN-2003; 2003WO-US020041.

XX 25-JUN-2002; 2002US-0391484P.

XX (REGC ) UNIV CALIFORNIA.

XX Varner JA, Bakre M, Jin H;

XX WPI; 2004-071778/07.

XX Reducing angiogenesis or increasing cell apoptosis, useful in treating  
 PT cancer, fibrosis, autoimmune disease, diabetes or graft rejection, by  
 PT providing endothelial cells and nucleotide sequence encoding a protein  
 PT kinase A catalytic subunit.

PS Claim 17; SEQ ID NO 114; 266pp; English.

XX The invention relates to reducing angiogenesis or increasing cell  
 CC apoptosis in subject comprising providing a subject comprising tissue  
 CC that has endothelial cells and at least one nucleotide sequence encoding  
 CC a protein comprising a protein kinase A catalytic subunit and expressing  
 CC the nucleotide sequence in the endothelial cells so that angiogenesis by  
 CC the endothelial cells is reduced or apoptosis of the cells is increased.  
 CC Alternatively, the nucleic acid may encode a parathyroid hormone (PTH) or

CC PTH-related peptide. The method comprises providing a subject comprising  
 CC tissue that comprises endothelial cells and at least one agent, e.g.  
 CC pertussis toxin, cholera toxin, G alpha i minigene, dominant negative G  
 CC alpha i, dominant negative G alpha 12/13, constitutively active G alpha  
 CC s anti-CD47 antibody, dominant positive Rho (RhoV14), dominant negative  
 CC Src or active Cdk and treating the endothelial cells with at least one  
 CC agent such that the angiogenesis by the endothelial cells is reduced or  
 CC apoptosis of the cells is increased. The agent may alternatively be an  
 CC Src inhibitor. The method further comprises detecting a reduction in  
 CC angiogenesis by the endothelial cells or an increase in apoptosis of the  
 CC cells. The subject is human, who has a pathological condition associated  
 CC with angiogenesis in the tissue. The tissue comprises at least one of  
 CC ocular tissue, skin tissue, bone tissue or synovial tissue, where the  
 CC tissue comprises a malignant tumour, i.e. metastatic. The cell is chosen  
 CC from endothelial, vascular smooth muscle, monocyte, macrophage, benign  
 CC tumour, malignant tumour, fibroblast, B, myocyte, megakaryocyte,  
 CC eosinophil, neutrite or synovocyte cell. The pathological condition is  
 CC fibrosis and the tissue is selected from heart, lung or liver. The method  
 CC is useful for reducing angiogenesis or increasing cell apoptosis and in  
 CC treating angiogenesis, restenosis, atherosclerosis, cancer, tumour  
 CC metastasis, fibrosis, haemangioma, lymphoma, leukaemia, psoriasis,  
 CC arthritis, diabetes, amyotrophic lateral sclerosis, graft rejection,  
 CC retinopathy, macular degeneration or retinal tearing or autoimmune  
 CC disease, e.g. lupus, Crohn's disease or multiple sclerosis. The present  
 CC sequence is a Parathyroid hormone related peptide N-terminus, useful as  
 CC an antiangiogenic peptide in the method of the invention.

XX Sequence 10 AA;

Query Match 100.0%; Score 46; DB 8; Length 10;

Best Local Similarity 100.0%; Pred. NO. 0.075;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9

Db 1 AVSEHQQLLH 9

RESULT 5

AAW45785

ID AAW45785 standard; peptide; 12 AA.

XX AAW45785;

XX 24-JUN-1998 (first entry)

XX Parathyroid hormone related peptide analogue fragment.

XX Parathyroid hormone; PTH; osteoporosis; peptide synthesis; analogue;  
 XX parathyroid hormone-related hormone; PTH-rp; alpha-helix; amphipathic.

XX Mammalia.

XX Synthetic.

XX EP822200-A1.

XX 04-FEB-1998.

XX 23-JUL-1997; 97EP-00112595.

XX 30-JUL-1996; 96US-0023322P.

XX (HOFF ) HOFFMANN LA ROCHE & CO AG F.

XX Arzeno HB;

XX WPI; 1998-102869/10.

XX Chemical synthesis of parathyroid hormone analogues - by solution or  
 XX solid-phase methods, useful for treating osteoporosis.

XX Claim 10; Page 67; 69pp; English.

This sequence represents a specifically claimed peptide fragment. The invention relates to a process for synthesising a polypeptide analogue of parathyroid hormone (PTH) or PTH-related peptide (PTH-rp) in which amino acids 22-31 are: Glu-Leu-Leu-Glu-Lys-Leu-Leu-Xaa1-Lys-Leu (I); Glu-Leu-Leu-Glu-Arg-Leu-Xaa2-Arg-Leu (II); Ala-Leu-Ala-Glu-Ala-Leu-Ala-Glu-Ala-Leu (III); Ser-Leu-Leu-Ser-Leu-Leu-Ser-Leu (IV); Ala-Phe-Tyr-Asp-Lys-Val-Ala-Glu-Lys-Leu (V); Xaa3-Xaa4-Leu-Xaa3-Xaa5-Leu-Xaa6-Xaa7-Xaa8-Xaa6 (VI); or Xaa3-Xaa4-Leu-Xaa3-Arg-Leu-Leu-Xaa9-Arg-Leu (VII), Xaa1 = Glu or Arg; Xaa2 = Glu, Lys or 'lysine' (OCCH2P5GX)'; Xaa3 = Glu, Glu(OMe), His or Phe; Xaa4 = Leu or Phe; Xaa5 = Lys or His; Xaa6 = Glu or Ile; Xaa7 = Ala, Arg or Glu; Xaa8 = Lys or Glu; and Xaa9 = Glu, Lys or 'Lys(COCH2PEGX)'. The process comprises independently synthesising precursor peptide fragments of the polypeptide by solution or solid-phase techniques, coupling (condensing) the fragments together, and removing any protecting groups. The peptides can be used for treating osteoporosis

CC Sequence 12 AA;

Query Match 100.0%; Score 46; DB 2; Length 12;  
Best Local Similarity 100.0%; Pred. No. 0.091;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
| | | | |  
Db 1 AVSEHQQLLH 9

RESULT 6

AAB01860  
ID AAB01860 standard; peptide; 14 AA.

XX AAB01860;

XX 11-SEP-2000 (first entry)

XX Human parathyroid hormone-related peptide, PTHrP(1-14).

XX PTH-related peptide; PTHrP; parathyroid hormone peptide; PTH;  
XX calcium homeostasis; PTH-1 receptor; PTH-2; vitamin D synthesis;  
XX bone synthesis; osteoporosis; non-parenteral delivery.

XX Homo sapiens.

XX WO200023594-A1.

XX 27-APR-2000.

XX 20-OCT-1999; 99WO-US024481.

XX 22-OCT-1998; 98US-0105530P.

XX (GARD/) GARDELLA T J.

XX (KRON/) KRONENBERG H M.

XX (POTT/) POTTS J T.

XX (JUEP/) JUEPPNER H.

XX Gardella TJ, Kronenberg HM, Potts JT, Jueppner H;

XX WPI; 2000-339693/29.

XX Parathyroid hormone (PTH) peptides, PTH related peptides and the nucleic acids that encode them, useful for treating osteoporosis.

XX Claim 8; Page 48; 73pp; English.

XX The invention relates to a novel parathyroid hormone (PTH) peptide (AAB01859) and parathyroid hormone-related peptide (PTH-rP; AAB01860), and biologically active derivatives thereof (AAB01857-B01858; AAB01861-B01869). The peptides of the invention are at least 85% identical to the generic peptide of the formula: X1-Val-Ser-Glu-X2-Gln-Leu-X3-His-X4-X5-Gly-Lys-X6 (AAB01857) where: X1 is Ser or Ala; X2 is Ile or Lys; X3 is Met, Leu or Nle; X4 is Asn or Asp; X5 is Leu or Lys; X6 is His or Ser;

CC provided that the peptide is not PTHrP(1-14). The peptides of the invention also encompass fragments of peptides of the invention consisting of amino acids 1-9, 1-10, 1-11, 1-12 and 1-13, and N- and C-terminal derivatives. PTH is a major regulator of calcium homeostasis, and is necessary for the normal function of the gastrointestinal, skeletal, neurological system, neuromuscular and cardiovascular systems. It binds to both PTH-1 receptors on osteoblasts and renal tubular cells, and to the recently identified PTH-2 receptor. PTH has a potent anabolic effect on the skeleton, and mediates calcium reabsorption, enhances phosphate clearance and vitamin D synthesis in the kidney. A homologous calls of protein hormones, the PTH-related proteins (PTHrP) mimic some of the renal and skeletal actions of PTH, and also bind to the PTH-1 receptor. They do not bind to the PTH-2 receptor. The peptides of the invention are either agonists of PTH-1 and PTH-2 receptors (AAB01858, AAB01861-B01866) or are PTH-1/PTH-2 receptor antagonists (AAB01867-B01869). PTH-1/PTH-2 receptor agonists are useful for the treatment of conditions characterised by a decrease in bone mass, such as osteoporosis. PTH-1/PTH-2 receptor antagonists are useful for treating medical disorders that arise from excessive or altered action of the PTH-1/PTH-2 receptor. Detectably labelled peptides of the invention are also useful in the determination of rates of bone formation, bone resorption and/or bone remodelling in a patient. The peptides of the invention are "minimised" versions of PTH or PTHrP which are inexpensive to prepare by conventional synthetic chemistry, and can be delivered to a patient via non-parenteral routes. The present sequence represents a human PTHrP peptide, PTHrP(1-14)

XX Sequence 14 AA;

Query Match 100.0%; Score 46; DB 3; Length 14;

Best Local Similarity 100.0%; Pred. No. 0.11;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9

| | | | |

Db 1 AVSEHQQLLH 9

RESULT 7

AAB96895

ID AAB96895 standard; peptide; 14 AA.

XX AAB96895;

XX 13-JUL-2001 (first entry)

XX Human parathyroid hormone related protein primary amino acid sequence.

XX Rat; human; parathyroid hormone derivative; calcium homeostasis;

XX hypercalcaemia; anaemia; bone disease; renal impairment; ulcer; myopathy;

XX neuropathy; hyperparathyroidism; osteoporosis; fracture;

XX cartilage disorder.

XX Homo sapiens.

XX WO200123427-A1.

XX 05-APR-2001.

XX 25-FEB-2000; 2000WO-US004716.

XX 29-SEP-1999; 99US-0156927P.

XX (GEHO ) GEN HOSPITAL CORP.

XX Gardella TJ, Kronenberg HM, Potts JT, Jueppner H;

XX WPI; 2001-343161/36.

XX Novel amino acid encoding polypeptides useful in the treatment of osteoporosis.

XX Disclosure; Page 34; 100pp; English.

XX The present invention provides a number of parathyroid hormone  
 CC derivatives based on the rat and human hormone sequences. These peptides  
 CC can be used in the treatment of human skeletal conditions, including  
 CC osteoporosis, fractures and cartilage disorders, disruption of calcium  
 CC homeostasis, which may cause severe bone disease, anaemia, renal  
 CC impairment, ulcers, myopathy and neuropathy, hypercalcaemia and  
 CC hyperparathyroidism. The present peptide was used in the exemplification  
 CC of the invention  
 XX  
 SQ Sequence 14 AA;

Query Match 100.0%; Score 46; DB 4; Length 14;  
 Best Local Similarity 100.0%; Pred. No. 0.11;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||  
 Db 1 AVSEHQLLH 9

RESULT 8  
 AAB84774  
 ID AAB84774 standard; peptide; 14 AA.

XX AAB84774;

XX 25-JUL-2001 (first entry)

XX Native parathyroid hormone-related protein peptide fragment.

XX Osteopathic; calcium homeostasis regulator; parathyroid hormone; PTH;  
 KW bone mass; osteoporosis.

XX Unidentified.

XX WO200123521-A2.

XX 05-APR-2001.

XX 29-SEP-2000; 2000WO-US026818.

XX 29-SEP-1999; 99US-0156927P.

XX 25-FEB-2000; 2000US-0185060P.

XX (GEHO ) GEN HOSPITAL CORP.

XX Gardella TJ, Kronenberg HM, Potts JT, Juppner H;

XX WPI; 2001-374252/39.

XX New Parathyroid hormone (PTH) derivatives useful for treating conditions  
 PT characterized by decreases in bone mass.

XX Disclosure; Page 34; 97pp; English.

XX The present invention relates to parathyroid hormone (PTH) polypeptide  
 CC derivatives, and the present sequence is one such derivative. PTH is a  
 CC major regulator of calcium homeostasis. The PTH polypeptide derivatives  
 CC are useful for treating conditions characterised by decreases in bone  
 CC mass, such as old age osteoporosis and post-menopausal osteoporosis. The  
 CC polypeptides are also useful for determining rates of bone reformation,  
 CC bone resorption and/or bone remodeling, by administering the polypeptide  
 CC to the patient and determining the uptake of the peptide into the bone,  
 CC and effective bone mass-increasing amount to the peptide is administered  
 CC by providing to the patient DNA encoding the peptide and expressing the  
 CC peptide in vivo. The levels of cAMP and inositol phosphate can also be  
 CC increased in a mammalian cell having PTH-1 receptors, by contacting the  
 CC cell with a sufficient amount of the polypeptide

XX Sequence 14 AA;

Query Match 100.0%; Score 46; DB 4; Length 14;

Best Local Similarity 100.0%; Pred. No. 0.11;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||  
 Db 1 AVSEHQLLH 9

RESULT 9  
 AAP82548  
 ID AAP82548 standard; protein; 16 AA.

XX AAP82548;

XX 25-MAR-2003 (revised)

DT 03-OCT-2002 (revised)

DT 13-DEC-1990 (first entry)

XX (Aen10) PTHrP(1-16).

XX Parathyroid hormone; cancer; chronic renal failure; bone disease.

XX Synthetic.

XX WO8800596-A.

XX 28-JAN-1988.

XX 04-JUN-1987; 87WO-AU000165.

XX 18-JUL-1986; 86AU-00007027.

PR 06-AUG-1986; 87AU-00075145.

PR 13-FEB-1987; 87AU-00000349.

XX (UYME ) UNIV MELBOURNE.

XX (MART/) MARTIN T J.

XX Martin TJ, Moseley JM, Kemp BE, Wettenhall REH;

XX WPI; 1988-036432/05.

XX Purified parathyroid hormone related hormone - useful for preparing  
 PT antibodies for detection of cancer, chronic renal failure and bone  
 PT diseases in which parathyroid hormone functions.

XX Claim 7; Page 34; 6pp; English.

XX This purified parathyroid hormone related hormone (PTHrP) modif-ied  
 CC subunit is useful for preparing antibodies for detection of PTHrP  
 CC activity and diagnosis of cancer, chronic renal failure and bone diseases  
 CC in which the parathyroid hormone functions. See also AAP82544, AAP82547  
 CC and AAP82549. (Updated on 03-OCT-2002 to add missing OS field.) (Updated  
 CC on 25-MAR-2003 to correct PA field.)

XX Sequence 16 AA;

Query Match 100.0%; Score 46; DB 1; Length 16;  
 Best Local Similarity 100.0%; Pred. No. 0.12;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||  
 Db 1 AVSEHQLLH 9

RESULT 10  
 AAP82549  
 ID AAP82549 standard; protein; 17 AA.

XX AAP82549;

XX 25-MAR-2003 (revised)

DT 03-OCT-2002 (revised)





CC PCR using the flanking primers PTHPCR 1 and PTHPCR2 (AAQ81471 and  
 CC AAQ81472). (Updated on 25-MAR-2003 to correct PN field.)  
 XX  
 SQ Sequence 21 AA;

Query Match 100.0%; Score 46; DB 2; Length 21;  
 Best Local Similarity 100.0%; Pred. No. 0.19;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQQLLH 9  
 |||||  
 Db 2 AVSEHQQLLH 10  
 |||||

RESULT 13  
 AAP80301  
 ID AAP80301 standard; protein; 24 AA.  
 XX  
 AC AAP80301;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 31-OCT-2002 (revised)  
 DT 03-OCT-1990 (first entry)  
 XX  
 DE Sequence encoded by probe brf. 1.  
 XX  
 KW Probe brf. 1; adenylate cyclase stimulating factor; bone resorption;  
 KW parathyroid hormone receptor; humoral hypercalcaemia of malignancy.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO8809376-A.  
 XX  
 PD 01-DEC-1988.  
 XX  
 PF 19-MAY-1988; 88WO-US001652.  
 XX  
 PR 20-MAY-1987; 87US-00052637.  
 XX  
 PA (GETH ) GENENTECH INC.  
 PA (UYME ) UNIV MELBOURNE.  
 XX  
 PI Martin TJ, Suya LJ, Wood WL;  
 XX  
 DR WPI; 1988-353951/49.  
 DR N-PSDB; AAP80301.  
 XX  
 CC Recombinant adenylate Cyclase Stimulating factor - used to produce  
 PT antibodies for detection and treatment of humoral hypercalcaemia of  
 PT malignancy.  
 XX  
 PS Disclosure; Page ?; 48pp; English.  
 XX  
 SQ Sequence 24 AA;

Query Match 100.0%; Score 46; DB 1; Length 24;  
 Best Local Similarity 100.0%; Pred. No. 0.19;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQQLLH 9  
 |||||  
 Db 1 AVSEHQQLLH 9  
 |||||

RESULT 14  
 AAP81358  
 ID AAP81358 standard; protein; 24 AA.  
 XX  
 AC AAP81358;  
 XX

Query Match 100.0%; Score 46; DB 1; Length 24;  
 Best Local Similarity 100.0%; Pred. No. 0.19;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQQLLH 9  
 |||||  
 Db 1 AVSEHQQLLH 9  
 |||||

RESULT 15  
 AAU73164  
 ID AAU73164 standard; peptide; 29 AA.  
 XX  
 AC AAU73164;  
 XX  
 DT 12-MAR-2002 (first entry)  
 XX  
 DE Parathyroid hormone PTH/PTHrP modulating domain #146.  
 XX  
 KW Human; parathyroid hormone; PTH; parathyroid hormone-related protein;  
 KW PTHrP; bone resorption inhibitor; osteoprotegerin; OPG; OPG-L antibody;  
 KW calcitonin; bisphosphonate; oestrogen; oestrogen receptor; tibolone;  
 KW osteopenia; hyperthyroidism; hypercalcaemia; tumour metastasis; bone;  
 KW breast cancer; prostate cancer; cachexia; anorexia; osteoporosis;  
 KW Paget's disease; osteomyelitis; osteonecrosis; bone cell death;  
 KW Gaucher's disease; sickle cell anaemia; systemic lupus erythematosus;  
 KW rheumatoid arthritis; periodontal disease; alopecia; fracture repair;  
 KW immunoglobulin G; IgG.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200181415-A2.  
 XX

DT 25-MAR-2003 (revised)  
 DT 31-OCT-2002 (revised)  
 DT 03-OCT-1990 (first entry)  
 XX  
 DE Sequence encoded by probe brf. 2.  
 XX  
 KW Probe brf. 2; adenylate cyclase stimulating factor; bone resorption;  
 KW parathyroid hormone receptor; humoral hypercalcaemia of malignancy.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO8809376-A.  
 XX  
 PD 01-DEC-1988.  
 XX  
 PF 19-MAY-1988; 88WO-US001652.  
 XX  
 PR 20-MAY-1987; 87US-00052637.  
 XX  
 PA (GETH ) GENENTECH INC.  
 PA (UYME ) UNIV MELBOURNE.  
 XX  
 PI Martin TJ, Suya LJ, Wood WL;  
 XX  
 DR WPI; 1988-353951/49.  
 DR N-PSDB; AAP80302.  
 XX  
 CC Recombinant adenylate Cyclase Stimulating factor - used to produce  
 PT antibodies for detection and treatment of humoral hypercalcaemia of  
 PT malignancy.  
 XX  
 PS Disclosure; Page ?; 48pp; English.  
 XX  
 SQ The peptide is encoded by probe brf. 1. It comprises a portion of the  
 CC adenylate cyclase stimulating factor sequence. (Updated on 31-OCT-2002 to  
 CC add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)  
 CC (Updated on 25-MAR-2003 to correct PI field.)  
 XX  
 SQ Sequence 24 AA;

Query Match 100.0%; Score 46; DB 1; Length 24;  
 Best Local Similarity 100.0%; Pred. No. 0.19;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQQLLH 9  
 |||||  
 Db 1 AVSEHQQLLH 9  
 |||||

PD 01-NOV-2001.  
XX  
XX PF 27-APR-2001; 2001WO-US013528.  
XX  
XX PR 27-APR-2000; 2000US-0200053P.  
XX PR 28-JUN-2000; 2000US-0214860P.  
XX PR 06-FEB-2001; 2001US-0266673P.  
XX PR 26-APR-2001; 2001US-00843221.  
XX  
XX PA (AMGE-) AMGEN INC.  
XX  
XX PI Kostenuik P, Liu C, Lacey DL;  
XX XX WPI; 2002-066435/09.  
XX  
XX PT Composition, useful for treating osteopenia, comprises parathyroid  
XX PT hormone and parathyroid hormone-related protein receptor modulators.  
XX  
XX PS Disclosure; Page 32; 107pp; English.  
XX  
XX CC The invention relates to a composition (I) comprising modulators of  
XX CC parathyroid hormone (PTH) and parathyroid hormone-related protein (PTHrP)  
XX CC which comprise a PTH/PTHrP modulating domain and a vehicle. (I)  
XX CC comprising PTH agonist optionally with a bone resorption inhibitor, such  
XX CC as osteoprotegerin (OPG), OPG-L antibody, calcitonin, bisphosphonates,  
XX CC oestrogens, oestrogen receptor modulators and tibolone is useful for  
XX CC treating osteopenia. (I) is useful for therapeutic and prophylactic  
XX CC purposes. Antagonists of PTH receptor are useful in treating primary and  
XX CC secondary hyperthyroidism, hypercalcaemia, tumour metastases,  
XX CC particularly breast and prostate cancer, cachexia and anorexia,  
XX CC osteopenia, including various forms of osteoporosis, Paget's disease of  
XX CC bone, osteomyelitis, osteonecrosis or bone cell death, associated with  
XX CC traumatic injury or nontraumatic necrosis associated with Gaucher's  
XX CC disease, sickle cell anaemia, systemic lupus erythematosus, rheumatoid  
XX CC arthritis, periodontal disease and alopecia. PTH receptor agonists are  
XX CC useful as therapeutic agents in conditions including fracture repair  
XX CC (including healing of non-union fractures), osteopenia, including various  
XX CC forms of osteoporosis. AAU73018-AAU73181 represent parathyroid hormone  
XX CC and parathyroid hormone related protein (PTH/PTHrP) modulators and  
XX CC related amino acid sequences of the invention  
XX  
SQ Sequence 29 AA;  
  
Query Match 100.0%; Score 46; DB 5; Length 29;  
Best Local Similarity 100.0%; Pred. No. 0.23;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
Qy 1 AVSEHQLLH 9  
| | | | |  
Db 1 AVSEHQLLH 9

Search completed: December 2, 2005, 23:27:49  
Job time : 26.8764 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:04:13 ; Search time 3.94382 Seconds  
(without alignments)  
219.572 Million cell updates/sec

Title: US-10-691-125-2  
Perfect score: 46  
Sequence: 1 AVSEHQLLH 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues  
Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR\_80:\*  
1: pir1.\*  
2: pir2.\*  
3: pir3.\*  
4: pir4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	46	100.0	175	JN0103	parathyroid hormon
2	46	100.0	176	S10202	parathyroid hormon
3	46	100.0	177	A30012	parathyroid hormon
4	46	100.0	177	PTHU2L	parathyroid hormon
5	46	100.0	177	JC4201	parathyroid hormon
6	46	100.0	209	PTHU3L	parathyroid hormon
7	36	78.3	215	AGO290	ribonuclease T (EC
8	35	76.1	220	H6257	hypothetical prote
9	34	73.9	237	G83327	hypothetical prote
10	34	73.9	271	A48826	low chlorolytic ha
11	34	73.9	607	I37560	protein-tyrosine k
12	34	73.9	686	A34612	zinc finger protei
13	34	73.9	746	HHUMA	neprin A (EC 3.4.2
14	34	73.9	748	S24134	endopeptidase 2 (E
15	34	73.9	3005	S33642	homeotic protein z
16	33	71.7	115	A05091	parathyroid hormon
17	33	71.7	386	T12527	hypothetical prote
18	33	71.7	484	AB3202	3-hydroxyacyl-CoA
19	33	71.7	528	S14944	regulatory protein
20	33	71.7	590	A00559	probable ABC trans
21	33	71.7	590	H64774	ABC-type transport
22	33	71.7	590	F90691	ATP-binding compon
23	33	71.7	590	B85542	ATP-binding compon
24	33	71.7	769	P18PF6	p1 protein - phase
25	33	71.7	1143	I84547	hypothetical mdl f
26	32	69.6	105	I51851	parathyroid hormon
27	32	69.6	157	A06699	probable Type III
28	32	69.6	215	AD0695	ribonuclease T (im
29	32	69.6	215	A45065	ribonuclease T (EC

RESULT 1

JN0103  
Parathyroid hormone-related peptide precursor - mouse  
C:Species: Mus musculus (house mouse)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: JN0103  
R:Mangin, M.; Ikeda, K.; Broadus, A.E.  
Gene 95, 195-202, 1990  
A:Title: Structure of the mouse gene encoding parathyroid hormone-related peptide.  
A:Reference number: JN0103; MUID:91065532; PMID:2249778  
A:Accession: JN0103  
A:Molecule type: DNA  
A:Residues: 1-175 <MAN>  
A:Cross-references: UNIPROT:P22858; UNIPARC:UPI000000299AE; GB:M60057; GB:M34098; NID:920  
C:Comment: The normal role of the parathyroid hormone-related peptide is unknown.  
C:Genetics:  
A:Introns: 34/2; 173/2  
C:Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
F:1-24/Domain: signal sequence #status predicted <SIG>  
F:25-36/Domain: propeptide #status predicted <PRO>  
F:35-69/Domain: parathyroid hormone homology <PTH>  
F:37-175/Product: parathyroid hormone-related peptide #status predicted <MAT>

Query Match 100.0%; Score 46; DB 1; Length 175;  
Best Local Similarity 100.0%; Pred. No. 0.043;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
|||  
Db 37 AVSEHQLLH 45

RESULT 2

S10202  
Parathyroid hormone-related protein precursor - chicken  
C:Species: Gallus gallus (chicken)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: S10202  
R:Thiede, M.A.; Rutledge, S.J.  
Nucleic Acids Res. 18, 3062, 1990  
A:Title: Nucleotide sequence of a parathyroid hormone-related peptide expressed by the J  
A:Reference number: S10202; MUID:90272428; PMID:2349111  
A:Accession: S10202  
A:Molecule type: mRNA  
A:Residues: 1-176 <THI>  
A:Cross-references: UNIPROT:P17251; UNIPARC:UPI0000132902; EMBL:X52131; NID:962973; PTDN  
C:Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C:Keywords: Glycoprotein; hormone  
F:1-25/Domain: signal sequence #status predicted <SIG>  
F:26-37/Domain: propeptide #status predicted <PRO>  
F:36-70/Domain: parathyroid hormone homology <PTH>  
F:38-176/Product: parathyroid hormone-related protein #status predicted <MAT>

F;110,157/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 100.0%; Score 46; DB 1; Length 176;  
Best Local Similarity 100.0%; Pred. No. 0.043;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9

|||||

Db 38 AVSEHQLLH 46

RESULT 3

A30012

Parathyroid hormone-like protein precursor - rat

C/Species: Rattus norvegicus (Norway rat)

C/Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text\_change 09-Jul-2004

C/Accession: A34723; A34944; A30012; A43416

R;Karaplis, A.C.; Yasuda, T.; Hendy, G.N.; Goltzman, D.

Mol. Endocrinol. 4, 441-446, 1990

A;Title: Gene-encoding parathyroid hormone-like peptide: nucleotide sequence of the rat

A;Reference number: A34723; MUID:90258937; PMID:2342478

A;Accession: A34723

A;Molecule type: DNA

A;Residues: 1-177 <KAR>

A;Cross-references: UNIPROT:P13085; UNIPARC:UPI0000132905; GB:M34112; NID:g206229; PIDN:

A;Note: the authors translated the codon TAC for residue 114 as Thr

R;Yasuda, T.; Banville, D.; Rabbani, S.A.; Hendy, G.N.; Goltzman, D.

Mol. Endocrinol. 3, 518-525, 1989

A;Title: Rat parathyroid hormone-like peptide: comparison with the human homologue and e

A;Reference number: A34944; MUID:89313794; PMID:2747658

A;Accession: A34944

A;Molecule type: mRNA

A;Residues: 1-177 <YAS>

A;Cross-references: UNIPARC:UPI0000132905; GB:M31603; NID:g206486; PIDN:AAA41980.1; PID:

R;Thiede, M.A.; Rodan, G.A.

Science 242, 278-280, 1988

A;Title: Expression of a calcium-mobilizing parathyroid hormone-like peptide in lactatin

A;Reference number: A30012; MUID:89019361; PMID:3175653

A;Accession: A30012

A;Molecule type: mRNA

A;Residues: 1-177 <THI>

A;Cross-references: UNIPARC:UPI0000132905; EMBL:M21967; NID:g206488; PIDN:AAA41981.1; PI

R;Soifer, N.E.; Dee, K.E.; Insegna, K.L.; Burtis, W.J.; Matovicik, L.M.; Wu, T.L.; Milsted

J. Biol. Chem. 267, 18236-18243, 1992

A;Title: Parathyroid hormone-related protein. Evidence for secretion of a novel mid-regi

A;Reference number: A43416; MUID:92388199; PMID:1517251

A;Accession: A43416

A;Molecule type: protein

A;Residues: 'X', 75-84, 'S', 86-90, 'X', 92-93, 'X', 95-101, 'X', 103-105, 'X', 107 <SOI>

A;Cross-references: UNIPARC:UPI00000ESC38

A;Experimental source: RIN-141 cells

A;Note: sequence extracted from NCB1 backbone (NCBIP:112971)

C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology

F;1-36/Domain: signal sequence #status predicted <SIG>

F;35-69/Domain: parathyroid hormone homology <PTH>

F;37-177/Product: parathyroid hormone-like protein #status predicted <WAT>

F;73-74/Cleavage site: Arg-Ala (unidentified proteinase) #status experimental

Query Match 100.0%; Score 46; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.043;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9

|||||

Db 37 AVSEHQLLH 45

RESULT 4

PTH2UL

Parathyroid hormone-related protein precursor, splice form 2 - human

N;Alternate names: parathyroid hormone-like protein

N;Contains: parathyroid hormone-related protein, splice form 1; parathyroid hormone-rela

C;Species: Homo sapiens (man)

C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text\_change 09-Jul-2004  
C;Accession: A33360; B33360; A28120; A94295; B94295; A36166; A91606; A28034; A36512; JSO  
R;Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.

J. Biol. Chem. 264, 7720-7725, 1989

A;Title: Characterization of the human parathyroid hormone-like peptide gene. Functional

A;Reference number: A33360; MUID:89214427; PMID:2708388

A;Accession: A33360

A;Molecule type: DNA

A;Residues: 1-175 <YAS>

A;Cross-references: UNIPROT:P12272; UNIPARC:UPI000002B1CC; GB:M24349; GB:J04710; NID:g19

A;Accession: B33360

A;Molecule type: DNA

A;Residues: 176-177 <YAS2>

A;Cross-references: UNIPARC:UPI00001734EA; GB:J04710

R;Mangan, M.; Webb, A.C.; Dreyer, B.E.; Possilico, J.T.; Ikeda, K.; Weir, E.C.; Stewart,

Proc. Natl. Acad. Sci. U.S.A. 85, 597-601, 1988

A;Title: Identification of a cDNA encoding a parathyroid hormone-like peptide from a hum

A;Reference number: A28120; MUID:88124888; PMID:2829195

A;Accession: A28120

A;Molecule type: mRNA

A;Residues: 1-177 <MAN>

A;Cross-references: UNIPARC:UPI0000047E25; EMBL:J03580

R;Suva, L.J.; Winslow, G.A.; Wettenhall, R.E.H.; Hammonds, R.G.; Moseley, J.M.; Diefenba

Science 237, 893-896, 1987

A;Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; c

A;Reference number: A94295; MUID:87292119; PMID:3616618

A;Accession: A94295

A;Molecule type: mRNA

A;Residues: 1-177 <SU1>

A;Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:g190725; PIDN:AAA60221.1; PID:

A;Accession: B94295

A;Molecule type: protein

A;Residues: 37-70, 'X', 72-84, 'X', 86, 103-115 <SU2>

A;Cross-references: UNIPARC:UPI00001734EB; UNIPARC:UPI00001734EC

R;Thiede, M.A.; Strewler, G.J.; Nissenson, R.A.; Rosenblatt, M.; Rodan, G.A.

Proc. Natl. Acad. Sci. U.S.A. 85, 4605-4609, 1988

A;Title: Human renal carcinoma expresses two messages encoding a parathyroid hormone-lik

A;Reference number: A36166; MUID:88262996; PMID:3290897

A;Accession: A36166

A;Molecule type: mRNA

A;Residues: 1-175 <THI>

A;Cross-references: UNIPARC:UPI000002B1CC; GB:J03802; NID:g190717; PIDN:AAA60218.1; PID:

R;Suva, L.J.; Mather, K.A.; Gillespie, M.T.; Webb, G.C.; Ng, K.W.; Winslow, G.A.; Wood,

Gene 77, 95-105, 1989

A;Title: Structure of the 5' flanking region of the gene encoding human parathyroid-horm

A;Reference number: A91606; MUID:89306685; PMID:2744490

A;Accession: A91606

A;Molecule type: DNA

A;Residues: 1-34 <SU3>

A;Cross-references: UNIPARC:UPI000016AF38; EMBL:X14304; NID:g35776; PIDN:CNA32480.1; PID

R;Moseley, J.M.; Kubota, M.; Diefenbach-Jagger, H.; Wettenhall, R.E.H.; Kemp, B.E.; Suva,

Proc. Natl. Acad. Sci. U.S.A. 84, 5048-5052, 1987

A;Title: Parathyroid hormone-related protein purified from a human lung cancer cell line

A;Reference number: A28034; MUID:87260926; PMID:2885845

A;Accession: A28034

A;Molecule type: protein

A;Residues: 37-52 <MOS>

A;Cross-references: UNIPARC:UPI00001734ED

C;Comment: This hormone stimulates an increase of cyclic AMP levels in osteoblasts and c

ay a role in fetal calcium metabolism.

C;Genetics:

A;Gene: GDB:PTH1H

A;Cross-references: GDB:120323; OMIM:168470

A;Map position: 12p12.1-12p11.2

A;Introns: 34/2

C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology

C;Keywords: alternative splicing; hormone; humoral hypercalcemia

F;1-24/Domain: signal sequence #status predicted <SIG>

F;25-36/Domain: propeptide #status predicted <PRO>

F;35-69/Domain: parathyroid hormone homology <PTH>

F;37-177/Product: parathyroid hormone-related peptide, splice form 2 #status predicted <

F;37-175/Product: parathyroid hormone-related peptide, splice form 1 #status predicted <

Query Match 100.0%; Score 46; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.043;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9  
||| |||||  
DB 37 AVSEHQLLH 45

## RESULT 5

JC4201  
parathyroid hormone-related protein precursor - dog  
C/Species: Canis lupus familiaris (dog)  
C/Date: 10-Sep-1995 #sequence\_revision 27-Oct-1995 #text\_change 09-Jul-2004  
C/Accession: JC4201  
R/Rosol, T.J.; Steinmeyer, C.L.; McCauley, L.K.; Groene, A.; DeWille, J.W.; Capen, C.C.  
Gene 160, 241-243, 1995  
A/Title: Sequences of the cDNAs encoding canine parathyroid hormone-related protein and  
A/Reference number: JC4201; MUID:95369696; PMID:7642102  
A/Accession: JC4201  
A/Molecule type: mRNA  
A/Residues: 1-177 <ROS>  
A/Cross-references: UNIPROT:P52211; UNIPARC:UPI0000132901; GB:U15593; NID:9558476; PIDN:  
C/Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C/Keywords: hormone  
F/1-36/Domain: signal sequence #status predicted <SIG>  
F/35-69/Domain: parathyroid hormone homology <PTH>  
F/37-177/Product: parathyroid hormone-related protein #status predicted <MAT>

Query Match 100.0%; Score 46; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.043;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9  
||| |||||  
DB 37 AVSEHQLLH 45

## RESULT 6

PTHU1L  
parathyroid hormone-related protein precursor, splice form 3 - human  
N/Alternate names: parathyroid hormone-like protein  
C/Species: Homo sapiens (man)  
C/Date: 31-Mar-1993 #sequence\_revision 31-Mar-1993 #text\_change 09-Jul-2004  
C/Accession: C33360; A32756  
R/Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.  
J. Biol. Chem. 264, 7720-7725, 1989  
A/Title: Characterization of the human parathyroid hormone-like peptide gene. Functional  
A/Reference number: A33360; MUID:89214227; PMID:2708388  
A/Accession: C33360  
A/Molecule type: DNA  
A/Residues: 1-209 <YAS>  
A/Cross-references: UNIPROT:P12272; UNIPROT:Q15251; UNIPARC:UPI000002B1CD; GB:M24350; GB:  
R/Margin, M.; Ikeda, K.; Dreyer, B.E.; Broadus, A.E.  
Proc. Natl. Acad. Sci. U.S.A. 86, 2408-2412, 1989  
A/Title: Isolation and characterization of the human parathyroid hormone-like peptide ge  
A/Reference number: A32756; MUID:89184636; PMID:2928340  
A/Accession: A32756  
A/Molecule type: DNA  
A/Residues: 176-209 <MAN>  
A/Cross-references: UNIPARC:UPI0000035191; GB:M34071; NID:G190715; PIDN:AAA60217.1; PID:  
C/Comment: This hormone causes humoral hypercalcemia of malignancy when secreted by cert  
C/Genetics:  
A/Gene: GDB:PTHU1L  
A/Cross-references: GDB:120323; OMIM:168470  
A/Map position: 12p12.1-12p11.2  
A/Introns: 34/2; 175/2  
C/Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C/Keywords: alternative splicing; hormone; humoral hypercalcemia  
F/1-24/Domain: signal sequence #status predicted <SIG>  
F/25-36/Domain: propeptide #status predicted <PRO>  
F/35-69/Domain: parathyroid hormone homology <PTH>  
F/37-209/Product: parathyroid hormone-related protein, splice form 3 #status predicted <

Query Match 100.0%; Score 46; DB 1; Length 209;  
Best Local Similarity 100.0%; Pred. No. 0.052;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9  
||| |||||  
DB 37 AVSEHQLLH 45

## RESULT 7

AG0290  
ribonuclease T (EC 3.1.13.3) [imported] - Yersinia pestis (strain CO92)  
C/Species: Yersinia pestis  
C/Date: 02-Nov-2001 #sequence\_revision 02-Nov-2001 #text\_change 09-Jul-2004  
C/Accession: AG0290  
R/Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B.  
deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.;  
Il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrall,  
Nature 413, 523-527, 2001  
A/Title: Genome sequence of Yersinia pestis, the causative agent of plague.  
A/Reference number: AB0001; MUID:21470413; PMID:11586360  
A/Accession: AG0290  
A/Status: preliminary  
A/Molecule type: DNA  
A/Residues: 1-215 <KUR>  
A/Cross-references: UNIPROT:Q8ZE08; UNIPARC:UPI0000134501; GB:AL590842; PIDN:CAC91187.1;  
C/Genetics:  
A/Gene: int

Query Match 78.3%; Score 36; DB 2; Length 215;  
Best Local Similarity 77.8%; Pred. No. 6.2;  
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9  
||| |||||  
DB 89 AVSEHDALH 97

## RESULT 8

H69257  
hypothetical protein AF0064 - Archaeoglobus fulgidus  
C/Species: Archaeoglobus fulgidus  
C/Date: 05-Dec-1997 #sequence\_revision 05-Dec-1997 #text\_change 09-Jul-2004  
C/Accession: H69257  
R/Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson  
.; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F.  
Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.  
Nature 390, 364-370, 1997  
A/Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artisch, P.; Kaine, B.P.; Sykes, S.  
Smith, H.O.; Woese, C.R.; Venter, J.C.  
A/Title: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeo  
A/Reference number: A69250; MUID:98049343; PMID:9389475  
A/Accession: H69257  
A/Status: preliminary; nucleic acid sequence not shown; translation not shown  
A/Molecule type: DNA  
A/Residues: 1-220 <KLE>  
A/Cross-references: UNIPROT:O30172; UNIPARC:UPI0000057259; GB:AE001102; GB:AE000782; NID:

Query Match 76.1%; Score 35; DB 2; Length 220;  
Best Local Similarity 75.0%; Pred. No. 10;  
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 2 VSEHQLLH 9  
||| |||||  
DB 198 VSKHELLH 205

## RESULT 9

GB3327  
hypothetical protein PA2544 [imported] - Pseudomonas aeruginosa (strain PA01)  
C/Species: Pseudomonas aeruginosa  
C/Date: 15-Sep-2000 #sequence\_revision 15-Sep-2000 #text\_change 09-Jul-2004

C;Accession: G83327  
 R;Stover, C.K.; Pham, X.O.; Erwin, A.L.; Mizoquchi, S.D.; Warrenner, P.; Hickey, M.J.; Berman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim, J.; Lory, S.; Olson, M.V.  
 Nature 406, 959-964, 2000  
 A;Title: Complete genome sequence of *Pseudomonas aeruginosa* PAO1, an opportunistic pathogen  
 A;Reference number: A82950; MUID:20437337; PMID:10984043  
 A;Accession: G83327  
 A;Status: preliminary  
 A;Molecule type: DNA  
 A;Residues: 1-237 <STO>  
 A;Cross-references: UNIPROT:Q910U0; UNIPARC:UPI00000C572D; GB:AE004091; NID:AE004091  
 A;Experimental source: strain PAO1  
 C;Genetics:  
 A;Gene: PA2544

Query Match 73.9%; Score 34; DB 2; Length 237;  
 Best Local Similarity 77.8%; Pred. No. 18;  
 Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||

Db 221 AVREHVLH 229  
 |||||

## RESULT 10

A48826

low choriolytic hatching proteinase (SC 3.4.24.-) precursor - Japanese medaka  
 C;Species: *Oryzias latipes* (Japanese medaka)  
 C;Date: 01-Dec-1993 #sequence\_revision 18-Nov-1994 #text\_change 09-Jul-2004  
 C;Accession: A48826  
 R;Yasumae, S.; Yamada, K.; Akasaka, K.; Mitsuunaga, K.; Iuchi, I.; Shinada, H.; Yamagami, S.  
 Dev. Biol. 153, 250-258, 1992  
 A;Title: Isolation of cDNAs for LCE and HCE, two constituent proteases of the hatching enzyme  
 A;Reference number: A48826; MUID:93012471; PMID:1397682  
 A;Accession: A48826  
 A;Molecule type: mRNA; protein  
 A;Residues: 1-271 <YAS>

A;Cross-references: UNIPROT:P31579; UNIPARC:UPI000012E286; GB:M96169; NID:g213505; PIDN:PI000012E286  
 A;Experimental source: orange red variety, embryo  
 A;Note: sequence extracted from NCBI backbone (NCBIN:114767, NCBIP:114768)  
 A;Note: part of this sequence, including the amino end of the mature protein, was determined  
 C;Superfamily: astacin; astacin homology  
 C;Keywords: glycoprotein; hydrolase; metalloproteinase; zinc  
 F;1-20/Domain: signal sequence #status predicted <SIG>  
 F;21-71/Domain: propeptide #status predicted <PRO>  
 F;72-271/Product: low choriolytic hatching proteinase #status predicted <MAT>  
 F;91-271/Domain: astacin homology <AST>  
 F;30.54.211/Binding site: carbohydrate (Aen) (covalent) #status predicted  
 F;172,176,182,228/Binding site: zinc (His, His, Tyr) #status predicted  
 F;173/Active site: Glu #status predicted

Query Match 73.9%; Score 34; DB 2; Length 271;  
 Best Local Similarity 66.7%; Pred. No. 21;  
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||

Db 168 AVIQHELLH 176  
 |||||

## RESULT 11

I37560

protein-tyrosine kinase (EC 2.7.1.112) ryk - human  
 C;Species: *Homo sapiens* (man)  
 C;Date: 04-Oct-1996 #sequence\_revision 04-Oct-1996 #text\_change 05-Oct-2004  
 C;Accession: I37560; A38269; S31579  
 R;Tamagnone, L.; Partanen, J.; Armstrong, E.; Lasota, J.; Ohgami, K.; Tazunoki, T.; LaFollette, M.; Olson, M.V.  
 Oncogene 8, 2009-2014, 1993  
 A;Title: The human ryk cDNA sequence predicts a protein containing two putative transmembrane domains  
 A;Reference number: I37560; MUID:93288416; PMID:8390040  
 A;Accession: I37560  
 A;Status: preliminary; translated from GB/EMBL/DBJ

A;Molecule type: mRNA  
 A;Residues: 1-607 <RES>  
 A;Cross-references: UNIPARC:UPI000016AAB8; EMBL:X69970; NID:g32461; PIDN:CAA49591.1; PID:CAA49591.1  
 R;Partanen, J.; Mäkelä, T.P.; Alitalo, R.; Lénváslaiho, H.; Alitalo, K.  
 Proc. Natl. Acad. Sci. U.S.A. 87, 8913-8917, 1990  
 A;Title: Putative tyrosine kinases expressed in K-562 human leukemia cells.  
 A;Reference number: A38268; MUID:91062389; PMID:2247464  
 A;Accession: A38269  
 A;Status: nucleic acid sequence not shown; not compared with conceptual translation  
 A;Molecule type: mRNA  
 A;Residues: 467-523 <PAR>  
 A;Cross-references: UNIPARC:UPI000017A3C5  
 C;Genetics:  
 A;Gene: GDB:RYK; D3S3195  
 A;Cross-references: GDB:217730  
 A;Map position: 3q22-3q22  
 C;Keywords: ATP; magnesium; phosphotransferase; tyrosine-specific protein kinase  
 F;328-603/Domain: protein kinase homology <KIN>  
 F;336-344/Region: protein kinase ATP-binding motif  
 F;364,381,465/Active site: Lys, Glu, Asp #status predicted  
 F;470,483/Binding site: magnesium (Asn, Asp) #status predicted

Query Match 73.9%; Score 34; DB 2; Length 607;  
 Best Local Similarity 55.6%; Pred. No. 52;  
 Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
 |||||

Db 436 AISQHDLVH 444  
 |||||

## RESULT 12

A34612

zinc finger protein ZNF7 - human  
 N;Alternate names: zinc finger protein kox4  
 C;Species: *Homo sapiens* (man)  
 C;Date: 22-Jun-1990 #sequence\_revision 22-Jun-1990 #text\_change 09-Jul-2004  
 C;Accession: A34612; A56409; S10421; I37972  
 R;Lania, L.; Donati, E.; Pannuti, A.; Pascucci, A.; Pengue, G.; Feliciello, I.; La Mantia, G.  
 Genomics 6, 333-340, 1990  
 A;Title: cDNA isolation, expression analysis, and chromosomal localization of two human zinc finger proteins  
 A;Reference number: A34612; MUID:90169993; PMID:2106481

A;Accession: A34612  
 A;Molecule type: mRNA  
 A;Residues: 1-686 <LAN>  
 A;Cross-references: UNIPROT:P17097; UNIPARC:UPI000013C3F8; GB:M29580; NID:g340445; PIDN:PI000013C3F8  
 R;Bray, P.; Lichter, P.; Thiesen, H.J.; Ward, D.C.; David, I.B.  
 Proc. Natl. Acad. Sci. U.S.A. 88, 9563-9567, 1991  
 A;Title: Characterization and mapping of human genes encoding zinc finger proteins.  
 A;Reference number: A56409; MUID:92052132; PMID:1946370

A;Accession: A56409  
 A;Molecule type: DNA  
 A;Residues: 425-589 <BRA>  
 A;Cross-references: UNIPARC:UPI0000178A54; GB:M77170  
 R;Thiesen, H.J.  
 Submitted to the EMBL Data Library, March 1990  
 A;Reference number: S10397

A;Accession: S10421  
 A;Molecule type: mRNA  
 A;Residues: 413-468 <THI>  
 A;Cross-references: UNIPARC:UPI000016ABC5; EMBL:X52335; NID:g34165; PIDN:CAA36561.1; PID:CAA36561.1  
 R;Thiesen, H.J.  
 New Biol. 2, 363-374, 1990  
 A;Title: Multiple genes encoding zinc finger domains are expressed in human T cells.  
 A;Reference number: I37949; MUID:91145339; PMID:2288909  
 A;Accession: I37972  
 A;Status: translated from GB/EMBL/DBJ  
 A;Molecule type: mRNA  
 A;Residues: 413-468 <RES>  
 A;Cross-references: UNIPARC:UPI000016ABC5; EMBL:X52335; NID:g34165; PIDN:CAA36561.1; PID:CAA36561.1  
 C;Genetics:  
 A;Gene: GDB:ZNF7  
 A;Cross-references: GDB:120509; OMIM:194531

A:Map position: 8q24.3-8q24.3  
A:Superfamily: zinc finger protein ZFP-36; LIM metal-binding repeat homology  
C:Keywords: DNA binding; zinc finger

Query Match 73.9%; Score 34; DB 2; Length 686;  
Best Local Similarity 62.5%; Pred. No. 60;  
Matches 5; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 2 VSEHQLLH 9  
|:|:|:|  
Db 428 LSQHQLLH 435

RESULT 13  
HYHUNA  
meprin A (EC 3.4.24.18) alpha chain precursor - human  
N:Alternate names: intestinal brush border metalloendopeptidase; N-benzoyl-L-tyrosyl-p-a  
C:Species: Homo sapiens (man)  
C:Date: 19-May-1994 #sequence revision 16-Feb-1996 #text\_change 09-Jul-2004  
C:Accession: S60193; S39464; S39465; A41196  
R:Elender, J.A.; Grunberg, J.; Sterchi, E.E.  
submitted to the EMBL Data Library, August 1994  
A:Reference number: S60193  
A:Accession: S60193  
A:Molecule type: mRNA  
A:Residues: 1-746 <ELD>  
A:Cross-references: UNIPROT:Q16819; UNIPARC:UPI000012EF0A; EMBL:M82962; NID:G535474; PID  
R:Dunermuth, E.; Elender, J.A.; Gruenberg, J.; Jiang, W.; Sterchi, E.E.  
FEBS Lett. 335, 367-375, 1993  
A:Title: Cloning of the PABA peptide hydrolase alpha subunit (PPH-alpha) from human smal  
A:Reference number: S39464; MUID:94085556; PMID:8262185  
A:Accession: S39464  
A:Molecule type: mRNA  
A:Residues: 33-746 <DUM>  
A:Cross-references: UNIPARC:UPI0000172D13  
A:Accession: S39465  
A:Molecule type: protein  
A:Residues: 66-83 <DU2>  
A:Cross-references: UNIPARC:UPI0000172D13  
A:Note: human meprin A alpha chain appears to be expressed in intestine but not in kidne  
R:Dunermuth, E.; Sterchi, E.E.; Jiang, W.; Wolz, R.L.; Bond, J.S.; Flannery, A.V.; Beyno  
J. Biol. Chem. 266, 21381-21385, 1991  
A:Title: The astacin family of metalloendopeptidases.  
A:Reference number: A41196; MUID:92042028; PMID:1939172  
A:Accession: A41196  
A:Molecule type: mRNA  
A:Residues: 65-263 <DU3>  
A:Cross-references: UNIPARC:UPI0000172D15; GB:M82962; GB:M74238  
C:Genetics:  
A:Gene: GDB:MEPIA  
A:Cross-references: GDB:371059; OMIM:600388  
A:Map position: 6p21.2-6p21.1  
C:Complex: may form homodimers, homotetramers, or heterotetramers with two alpha chains  
C:Function:  
A:Description: zinc metalloproteinase  
C:Superfamily: meprin; astacin homology; EGF homology; MAM homology  
C:Keywords: Glycoprotein; hydrolase; metalloproteinase; transmembrane protein; zinc  
F:1-21/Domain: signal sequence #status predicted <SIG>  
F:22-65/Domain: propeptide #status predicted <PRO>  
F:66-746/Product: meprin A alpha chain #status predicted <MAT>  
F:75-261/Domain: astacin homology <AST>  
F:264-433/Domain: MAM homology <MAM>  
F:674-709/Domain: EGF homology <EGF>  
F:718-740/Domain: transmembrane #status predicted <TRM>  
F:107-259,128-147,674-685,679-694,696-709/Disulfide bonds: #status predicted  
F:140,222,414,440,447,539/Binding site: carbohydrate (Aan) (covalent) #status predicted  
F:155,159,165,214/Binding site: zinc (His, His, His, Tyr) #status predicted  
F:156/Active site: Glu #status predicted

Query Match 73.9%; Score 34; DB 1; Length 746;  
Best Local Similarity 55.6%; Pred. No. 66;  
Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
|:|:|:|  
Db 151 AIIHEHLH 159

RESULT 14  
S24134  
endopeptidase 2 (EC 3.4.24.-) - rat  
N:Alternate names: endopeptidase 24.18  
C:Species: Rattus norvegicus (Norway rat)  
C:Date: 02-Dec-1993 #sequence\_revision 01-Sep-1995 #text\_change 09-Jul-2004  
C:Accession: S24134  
R:Corbeil, D.; Gaudoux, F.; Wainwright, S.; Ingram, J.; Kenny, A.J.; Boileau, G.; Crine,  
FEBS Lett. 309, 203-208, 1992  
A:Title: Molecular cloning of the alpha-subunit of rat endopeptidase-24.18 (endopeptidas  
A:Reference number: S24134; MUID:92371675; PMID:1505684  
A:Accession: S24134  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-748 <COR>  
A:Cross-references: UNIPROT:Q64230; UNIPARC:UPI000012EF0B; GB:S43408; NID:G254297; PID:  
C:Superfamily: meprin; astacin homology; EGF homology; MAM homology  
C:Keywords: hydrolase; metalloproteinase; zinc  
F:76-262/Domain: astacin homology <AST>  
F:265-434/Domain: MAM homology <MAM>  
F:676-711/Domain: EGF homology <EGF>  
F:156,160,166/Binding site: zinc (His) #status predicted  
F:157/Active site: Glu #status predicted

Query Match 73.9%; Score 34; DB 2; Length 748;  
Best Local Similarity 55.6%; Pred. No. 66;  
Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
|:|:|:|  
Db 152 AIIHEHLH 160

RESULT 15  
S33642  
homeotic protein zfh-2 - fruit fly (Drosophila melanogaster)  
C:Species: Drosophila melanogaster  
C:Date: 20-Feb-1995 #sequence\_revision 20-Feb-1995 #text\_change 05-Oct-2004  
C:Accession: S33642; S27817  
R:Fortini, M.E.; Lai, Z.; Rubin, G.M.  
Mech. Dev. 34, 113-122, 1991  
A:Title: The Drosophila zfh-1 and zfh-2 genes encode novel proteins containing both zinc  
A:Reference number: S33641; MUID:92001539; PMID:1680376  
A:Accession: S33642  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-3005 <FOR>  
A:Cross-references: UNIPROT:P28167; UNIPARC:UPI000013C3B0; EMBL:M63450; NID:G158822; PII  
C:Genetics:  
A:Gene: zfh-2  
A:Cross-references: FlyBase:FBgn0004607  
C:Keywords: DNA binding; homeobox; nucleus; transcription regulation; zinc finger  
F:1798-1854/Domain: homeobox homology <HOX1>  
F:2155-2211/Domain: homeobox homology <HOX2>  
F:2761-2817/Domain: homeobox homology <HOX3>

Query Match 73.9%; Score 34; DB 2; Length 3005;  
Best Local Similarity 100.0%; Pred. No. 3.1e+02;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 4 EHQLLH 9  
|:|:|:|  
Db 2388 EHQLLH 2393

Search completed: December 2, 2005, 23:29:14  
Job time : 6.94382 secs

**This Page Blank (uspto)**



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:38:37 ; Search time 25.0281 Seconds  
(without alignments)  
253.705 Million cell updates/sec

Title: US-10-691-125-2  
Perfect score: 46  
Sequence: 1 AVSEHQLLH 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : UniProt\_05.80.\*  
1: uniprot\_sprot.\*  
2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	46	100.0	94	Q95KZ2	FELCA
2	46	100.0	121	PTHR_SHEEP	Q9GK30 ovls aries
3	46	100.0	175	PTHR_MOUSE	P22858 mus musculus
4	46	100.0	175	Q33XY9	HUMAN
5	46	100.0	175	Q811S6	MOUSE
6	46	100.0	175	Q924X4	MOUSE
7	46	100.0	175	Q540C1	MOUSE
8	46	100.0	176	PTHR_CHICK	P17251 gallus gall
9	46	100.0	177	PTHR_BOVIN	P58073 bos taurus
10	46	100.0	177	PTHR_CANFA	P52211 canis faml
11	46	100.0	177	PTHR_HUMAN	P12272 homo sapien
12	46	100.0	177	PTHR_RABIT	Q9G1C7 oryctolagus
13	46	100.0	177	PTHR_RAT	P13085 rattus norv
14	46	100.0	177	Q6PH74	HUMAN
15	46	100.0	177	Q65U02	PROVI
16	46	100.0	177	Q659U3	HALGR
17	46	100.0	177	Q866H2	PIG
18	46	100.0	178	Q5TLZ2	CHICK
19	46	100.0	202	Q9BDZ3	RABIT
20	40	87.0	170	Q7YR12	CEREL
21	39	84.8	521	Q47M1	TETNG
22	38	82.6	1160	Q54F05	DICDI
23	37	80.4	594	Q5RKM1	BRARE
24	37	80.4	598	Q5RHM1	BRARE
25	37	80.4	932	Q4RF33	TETNG
26	36	78.3	215	RNT_VSEPE	
27	36	78.3	215	Q6A36	YERPS
28	36	78.3	484	Q9RG14	ACTAC
29	36	78.3	500	Q8BK5	MOUSE
30	36	78.3	598	Q6FA12	ACIAD
31	36	78.3	663	Q5RHM2	BRACHYDANIO

32 36 78.3 865 2 Q4QE53 LEIMA  
33 36 78.3 885 2 Q82XC4 NITEU  
34 35 76.1 158 2 Q9CTX4 MOUSE  
35 35 76.1 220 1 Y064 ARCFU  
36 35 76.1 316 2 Q9VML5 DROME  
37 35 76.1 429 2 Q7UKE3 RHOB  
38 35 76.1 911 2 Q4SMF7 TETNG  
39 35 76.1 2193 2 Q4K992 PSEFS  
40 35 76.1 4410 2 Q4K993 PSEFS  
41 34 73.9 109 2 Q7KZ25 HUMAN  
42 34 73.9 190 2 Q5EVF0 UROC  
43 34 73.9 202 2 Q92970 HUMAN  
44 34 73.9 218 2 Q8MHY6 CEBAP  
45 34 73.9 218 2 Q8MJQ5 PPRIM

#### ALIGNMENTS

RESULT 1  
Q95KZ2\_FELCA PRELIMINARY; PRT; 94 AA.  
AC Q95KZ2\_FELCA PRELIMINARY; PRT; 94 AA.  
DT 01-DEC-2001 (TrEMBLrel. 19, Created)  
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)  
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)  
DE Parathyroid hormone-related protein precursor (Fragment).  
GN Name=PTHrP;  
OS Felis silvestris catus (Cat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
OC Felis.  
OX NCBI\_TaxID=9685;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX PubMed=11776973;  
RA Tannehill-Gregg S., Kergosien E., Rosol T.J.;  
RT "Feline head and neck squamous cell carcinoma cell line:  
RT characterization, production of parathyroid hormone-related protein,  
RT and regulation by transforming growth factor-beta.";  
RL In Vitro Cell. Dev. Biol. Anim. 37:676-683(2001).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RA Tannehill-Gregg S.H., Rosol T.J., Kergosien E.A.;  
RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AY052414; AAL13054.1; -, mRNA.  
DR HSRP; P12772; IBZG.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyrd hrm.  
DR InterPro; IPR003626; PTH related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH\_related; 1.  
DR SMART; SM00087; PTH; 1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
KW Signal.  
FT SIGNAL. <1 22 Potential.  
FT CHAIN 23 >94 parathyroid hormone-related protein.  
FT NON\_TER 1 1  
FT NON\_TER 94 94  
SQ SEQUENCE 94 AA; 10717 MW; DBD9FEODC4D27C82 CRC64;

Query Match 100.0%; Score 46; DB 2; Length 94;  
Best Local Similarity 100.0%; Pred. NO. 0.2;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 23 AVSEHQLLH 31

RESULT 2

PTHR SHEEP  
 ID PTHR\_SHEEP STANDARD; PRT; 121 AA.  
 AC 09CK30;  
 DT 16-OCT-2001 (Rel. 40, Created)  
 DT 16-OCT-2001 (Rel. 40, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Parathyroid hormone-related protein precursor (PTH-rp) (PThrP)  
 DE (Fragment).  
 GN Name=PTHrP;  
 OS Ovis aries (Sheep).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;  
 OC Pecora; Bovidae; Caprinae; Ovis.  
 OX NCBI\_TaxID=9940;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC TISSUE=Ovary;  
 RA Hastie P.M., Beck N.F.G.;  
 RT "Expression of mRNA encoding parathyroid hormone-related peptide (PTH-rp) in ovine ovarian follicles."  
 RL Submitted (DSC-2000) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).  
 CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).  
 CC -1- PTH: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).  
 CC -1- SIMILARITY: Belongs to the parathyroid hormone family.  
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 CC EMBL; AF327654; AAG48348.1; -; mRNA.  
 DR HSP; P12272; 1BZG.  
 DR InterPro; IPR001415; Parathyroid hrm.  
 DR InterPro; IPR003626; PTH-related.  
 DR PANTHER; PTHR17223; PTH-related; 1.  
 DR Pfam; PF01279; Parathyroid; 1.  
 DR ProDom; PD013225; PTH-related; 1.  
 DR SMART; SM00087; PTH; 1.  
 DR PROSITE; PS00335; PARATHYROID; 1.  
 KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein; Signal.  
 KW SIGNAL.  
 FT SIGNAL.  
 FT PROPEP 15 24  
 FT CHAIN 27 >121  
 FT MOTIF 98 119  
 FT MOTIF 121 121  
 FT NON\_TER 1 1  
 FT NON\_TER 121 121  
 SQ SEQUENCE 121 AA; 13658 MW; FA9437F5A5E041E1 CRC64;  
 Query Match 100.0%; Score 46; DB 1; Length 121;  
 Best Local Similarity 100.0%; Pred. No. 0.27;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 AVSEHQLLH 9  
 DB 27 AVSEHQLLH 35  
 RESULT 3  
 PTHR\_MOUSE

PTHR\_MOUSE STANDARD; PRT; 175 AA.  
 P22858;  
 DT 01-AUG-1991 (Rel. 19, Created)  
 DT 01-AUG-1991 (Rel. 19, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Parathyroid hormone-related protein precursor (PTH-rp) (PThrP) (PLP)  
 DE (Contains: Osteostatin).  
 GN Name=PTHrP; Synonyms=PthrP;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC OC Rodentia; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC MEDLINE=91065532; PubMed=2249778; DOI=10.1016/0378-1119(90)90362-U;  
 RA Mangin M., Ikeda K., Broadus A.E.;  
 RT "Structure of the mouse gene encoding parathyroid hormone-related peptide."  
 RL Gene 95:195-202(1990).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].  
 RC STRAIN=FVB/N; TISSUE=Mammary gland;  
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heide F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Brownstein M.J., Udén T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaby S.J., Boeak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Vallaloo D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., White J., Helton E., Kettman M., Madan A.C., Rodrigues S., Sanchez A., Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalley D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).  
 CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).  
 CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).  
 CC -1- PTH: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).  
 CC -1- SIMILARITY: Belongs to the parathyroid hormone family.  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.  
 CC EMBL; M60057; AAA63639.1; -; Genomic DNA.  
 DR EMBL; M60058; AAA63639.1; JOINED; Genomic DNA.  
 DR EMBL; M60056; AAA63639.1; JOINED; Genomic DNA.  
 DR EMBL; BC058187; AAH58187.1; -; mRNA.  
 DR PIR; JN0103; JN0103.  
 DR HSP; P12272; 1BZG.

```
DR Ensembl; ENSMUSG00000048776; Mus musculus.
DR MGI; MGI:97800; Pthlh.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0005179; F:hormone activity; TAS.
DR GO; GO:0048286; P:alveolus development; IMP.
DR GO; GO:0030855; P:epithelial cell differentiation; IMP.
DR GO; GO:0001501; P:skeletal development; IMP.
DR GO; GO:0043129; P:surfactant homeostasis; IMP.
DR InterPro; IPR001415; Parathyrd_hrm.
DR InterPro; IPR003626; PTH_related.
DR PANTHER; PTHR17223; PTH_related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;
KW Signal.
FT SIGNAL 1 24 Potential.
FT PROPEP 25 34
FT CHAIN 37 175 Parathyroid hormone-related protein.
FT PEPTIDE 143 173 Osteostatin (By similarity).
FT MOTIF 108 129 Nuclear localization signal (By similarity).
FT SEQUENCE 175 AA; 20100 MW; 6D27CFCC31900B45 CRC64;

Query Match 100.0%; Score 46; DB 1; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9
Db |||||
37 AVSEHQLLH 45

RESULT 4
Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.
AC Q53XY9;
DT 13-SEP-2005 (TrEMBLrel. 31, Created)
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE Parathyroid hormone-like hormone.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RA Kalline N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,
RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
RA Phelan M., Farmer A.;
RT "Cloning of human full-length cDNAs in BD Creator (TM) System Donor
RT vector.";
RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; BT007178; AAP35842.1; -; mRNA.
SQ SEQUENCE 175 AA; 19900 MW; 4FE954C51DB3E7D CRC64;

Query Match 100.0%; Score 46; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9
Db |||||
37 AVSEHQLLH 45

RESULT 5
Q81IS6 MOUSE PRELIMINARY; PRT; 175 AA.
AC Q81IS6;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
```

```
DE Parathyroid hormone-related peptide.
GN Name=Pthlh;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=SPRET/EI; TISSUE=Lung;
RX MEDLINE=22948948; PubMed=14586397; DOI=10.1038/sj.onc.1207088;
RA Benelli R., Peissel B., Manenti G., Gariboldi M., Vanzetto C.,
RA Albini A., Dragani T.A.;
RT "Allele-specific patterns of the mouse parathyroid hormone-related
RT protein: influences on cell adhesion and migration.";
RL Oncogene 22:7711-7715(2003).
DR EMBL; AY183377; AA025537.1; -; mRNA.
DR HSP; P12272; IBZG.
DR MGI; MGI:97800; Pthlh.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0005179; F:hormone activity; TAS.
DR GO; GO:0048286; P:alveolus development; IMP.
DR GO; GO:0030855; P:bone mineralization; IMP.
DR GO; GO:0030874; P:calcium ion homeostasis; TAS.
DR GO; GO:0030855; P:epithelial cell differentiation; IMP.
DR GO; GO:0001501; P:skeletal development; IMP.
DR GO; GO:0043129; P:surfactant homeostasis; IMP.
DR InterPro; IPR001415; Parathyrd_hrm.
DR InterPro; IPR003626; PTH_related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
DR SEQUENCE 175 AA; 20150 MW; 6C00142741900B5B CRC64;

Query Match 100.0%; Score 46; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9
Db |||||
37 AVSEHQLLH 45

RESULT 6
Q924X4 MOUSE PRELIMINARY; PRT; 175 AA.
AC Q924X4;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Parathyroid hormone-related protein precursor.
GN Name=Pthlh;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=C3H/HeJ; TISSUE=Lung;
RX MEDLINE=20552296; PubMed=11103933; DOI=10.1038/sj.onc.1203916;
RA Manenti G., Peissel B., Gariboldi M., Falvella F.S., Zaffaroni D.,
RA Allaria B., Fazzaglia S., Rebessi S., Covelli V., Saran A.,
RA Dragani T.A.;
RT "A cancer modifier role for parathyroid hormone-related protein.";
RL Oncogene 19:5324-5328(2000).
DR EMBL; AJ278119; CAC39218.1; -; mRNA.
DR HSP; P12272; IBZG.
DR MGI; MGI:97800; Pthlh.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0005179; F:hormone activity; TAS.
DR GO; GO:0048286; P:alveolus development; IMP.
```

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DR GO; GO:0030282; P:bone mineralization; IMP.
DR GO; GO:0006874; P:calcium ion homeostasis; TAS.
DR GO; GO:0030855; P:epithelial cell differentiation; IMP.
DR GO; GO:0001501; P:skeletal development; IMP.
DR GO; GO:0043129; P:surfactant homeostasis; IMP.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
KW SIGNAL.
FT SIGNAL.
FT CHAIN
SQ SEQUENCE 175 AA; 20096 MW; 6D22BCC31900B45 CRC64;

Query Match 100.0%; Score 46; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
Db 37 AVSEHQQLLH 45

RESULT 7
ID Q540C1 MOUSE PRELIMINARY; PRT; 175 AA.
AC Q540C1;
DT 13-SEP-2005 (TrEMBLrel. 31, Created)
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrp)
GN Name=Pthlh; Synonyms=Pthlp;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=C57BL/6;
RA Toribio R.E., Rourke K., Levine A., Kohn C.W., Rosol T.J.;
RT "Molecular cloning of the cDNA for Mus musculus parathyroid hormone-
related protein (PTHrp).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY220497; AAO64343.1; -; mRNA.
DR MGI; MGI:97800; Pthlh.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0005179; F:hormone activity; TAS.
DR GO; GO:0048286; P:alveolus development; IMP.
DR GO; GO:0030855; P:epithelial cell differentiation; IMP.
DR GO; GO:0001501; P:skeletal development; IMP.
DR GO; GO:0043129; P:surfactant homeostasis; IMP.
KW SIGNAL.
FT SIGNAL.
FT CHAIN
SQ SEQUENCE 175 AA; 20100 MW; 6D27CFC31900B45 CRC64;

Query Match 100.0%; Score 46; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
Db 37 AVSEHQQLLH 45

RESULT 8
ID PTHR_CHICK
ID PTHR_CHICK STANDARD; PRT; 176 AA.
AC P17251;
DT 01-AUG-1990 (Rel. 15, Created)

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```

DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrp)
DE [Contains: Osteostatin (PTHrp[107-139])].
GN Name=PTHlh;
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC MEDLINE=90272428; PubMed=2349111;
RA Thiede M.A., Rutledge S.J.;
RT "Nucleotide sequence of a parathyroid hormone-related peptide
expressed by the 10 day chicken embryo.";
RL Nucleic Acids Res. 18:3062-3062(1990).
CC [2]
CC STRUCTURE BY NMR OF 145-176.
CC MEDLINE=99296387; PubMed=10366729; DOI=10.1016/S0167-4838(99)00078-3;
CC Cuthbertson R.M., Kemp B.E., Barden J.A.;
CC "Structure study of osteostatin PTHrp[Thr107] (107-139).";
CC Biochim. Biophys. Acta 1432:64-72(1999).
CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of
cellular and organ growth, development, migration, differentiation
and survival and of epithelial calcium ion transport (By
similarity).
CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone
resorption (By similarity).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
similarity).
CC -1- PTM: There are several secretory forms, including osteostatin,
arising from endoproteolytic cleavage of the initial translation
product. Each of these secretory forms is believed to have one or
more of its own receptors that mediates the normal paracrine,
autocrine and endocrine actions (By similarity).
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.
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the European Bioinformatics Institute. There are no restrictions on its
use as long as its content is in no way modified and this statement is not
removed.
-----
DR EMBL; X52131; CAA36376.1; -; mRNA.
DR PIR; S10202; S10202.
DR HSSP; P12272; IBZG.
DR Ensembl; ENSGALG00000017295; Gallus gallus.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH_related.
DR PANTHER; PTHR17223; PTH_related; 1.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;
Signal.
FT SIGNAL.
FT CHAIN
FT PROPEP 26 37 Potential.
FT CHAIN 38 176 By similarity.
FT PEPTIDE 145 176 Parathyroid hormone-related protein.
FT MOTIF 109 130 Osteostatin.
FT MOTIF 109 130 Nuclear localization signal (By
similarity).
SQ SEQUENCE 176 AA; 20226 MW; 60C8AB30ACF5293B CRC64;

Query Match 100.0%; Score 46; DB 1; Length 176;
Best Local Similarity 100.0%; Pred. No. 0.42;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
Db 38 AVSEHQQLLH 46

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RESULT 9
PTHR_BOVIN
ID PTHR_BOVIN STANDARD; PRT; 177 AA.
AC P5073; Q8HY51;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rP) (PTHrP)
DE [Contains: Osteostatin].
GN Name=PTHrP;
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC Pecora; Bovidae; Bovinae; Bos.
OC NCBI_TaxID=9913;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=98244232; PubMed=9584841; DOI=10.1677/jme.0.0200271;
RA Wojcik S.F., Schanbacher F.L., McCauley L.K., Zhou H.,
RA Kartsogiannis V., Capen C.C., Rosol T.J.;
PT "Cloning of bovine parathyroid hormone-related protein (PTHrP) cDNA
RT and expression of PTHrP mRNA in the bovine mammary gland.";
RL J. Mol. Endocrinol. 20:271-280(1998).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=Holstein-Friesian; TISSUE=Mammary gland;
RA Onda K., Inaba M., Ono K.;
RT "Molecular cloning of bovine parathyroid hormone-related protein
RT cDNA.";
RL Submitted (DRC-2002) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of
CC cellular and organ growth, development, migration, differentiation
CC and survival and of epithelial calcium ion transport. Regulates
CC endochondral bone development and epithelial-mesenchymal
CC interactions during the formation of the mammary glands and teeth
CC (By similarity).
CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone
CC resorption (By similarity).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
CC similarity).
CC -1- TISSUE SPECIFICITY: Expressed in the mammary gland.
CC -1- PTM: There are several secretory forms, including osteostatin,
CC arising from endoproteolytic cleavage of the initial translation
CC product. Each of these secretory forms is believed to have one or
CC more of its own receptors that mediate the normal paracrine,
CC autocrine and endocrine actions (By similarity).
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.
CC -----
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; AB097837; BAC44840.1; -; mRNA.
DR HSSP; P12272; IBZG.
DR InterPro; IPR001415; Parathyrd hrm.
DR PANTHER; PTHR03626; PTH related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
DR KEGG; Cleavage on pair of basic residues; Hormone; Nuclear protein;
KW Signal.
FT SIGNAL. 1 24 Potential.
FT PROPEP 25 34 By similarity.
FT CHAIN 37 177 Parathyroid hormone-related protein.
FT PEPTIDE 143 175 Osteostatin (By similarity).
FT MOTIF 108 129 Nuclear localization signal (By
similarity).
FT

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FT CONFLICT 26 26 S -> L (in Ref. 2).
SQ SEQUENCE 177 AA; 20408 MW; 6A5B48ECB219EF08 CRC64;

Query Match 100.0%; Score 46; DB 1; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.43;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 AVSEHQLLH 9
DB 37 AVSEHQLLH 45

RESULT 10
PTHR_CANFA
ID PTHR_CANFA STANDARD; PRT; 177 AA.
AC P52211;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rP) (PTHrP)
DE [Contains: Osteostatin].
GN Name=PTHrP;
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC Canis.
OC NCBI_TaxID=9615;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Anal sac;
RX MEDLINE=95369696; PubMed=7642102; DOI=10.1016/0378-1119(94)00912-C;
RA Rosol T.J., Steinmeyer C.L., McCauley L.K., Groene A., DeWille J.W.,
RA Capen C.C.;
PT "Sequences of the cDNAs encoding canine parathyroid hormone-related
RT protein and parathyroid hormone.";
RL Gene 160:241-243(1995).
CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of
CC cellular and organ growth, development, migration, differentiation
CC and survival and of epithelial calcium ion transport. Regulates
CC endochondral bone development and epithelial-mesenchymal
CC interactions during the formation of the mammary glands and teeth
CC (By similarity).
CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone
CC resorption (By similarity).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
CC similarity).
CC -1- PTM: There are several secretory forms, including osteostatin,
CC arising from endoproteolytic cleavage of the initial translation
CC product. Each of these secretory forms is believed to have one or
CC more of its own receptors that mediate the normal paracrine,
CC autocrine and endocrine actions (By similarity).
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.
CC -----
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; U15593; AAA82583.1; -; mRNA.
DR PIR; JC4201; JC4201.
DR HSSP; P12272; IBZG.
DR Ensembl; ENSCAFG0000010955; Canis familiaris.
DR InterPro; IPR001415; Parathyrd hrm.
DR PANTHER; PTHR03626; PTH related.
DR PANTHER; PTHR17223; PTH related; 1.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
DR KEGG; Cleavage on pair of basic residues; Hormone; Nuclear protein;
KW Signal.
FT SIGNAL. 1 24 Potential.

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FT PROPEP 25 34 By similarity.  
 FT CHAIN 37 177 Parathyroid hormone-related protein.  
 FT PEPTIDE 143 175 Osteostatin (By similarity). (By  
 FT MOTIF 108 129 Nuclear localization signal (By  
 FT SEQUENCE 177 AA; 20299 MW; 93F57235C189A2CD CRC64;  
 Query Match 100.0%; Score 46; DB 1; Length 177;  
 Best Local Similarity 100.0%; Pred. NO. 0.43; Indels 0; Gaps 0;  
 Matches 9; Conservative 0; Mismatches 0;  
 QY 1 AVSEHQLLH 9  
 Db 37 AVSEHQLLH 45  
 RESULT 11  
 PTHR HUMAN  
 ID PTHR HUMAN STANDARD; PRT; 177 AA.  
 AC P12272; Q15251; AC P12272; Q15251; PRT; 177 AA.  
 DT 01-OCT-1989 (Rel. 12, Created)  
 DT 01-OCT-1989 (Rel. 12, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Parathyroid hormone-related protein precursor (PTH-rP) (PTHrP)  
 DE [Contains: PTHrP[1-36]; PTHrP[38-94]; Osteostatin (PTHrP[107-139])].  
 GN Name=PTHrP; Synonyms=PTHrP;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
 OC Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.  
 RX MEDLINE=87292119; PubMed=3616618;  
 RA Suva L.J., Winslow G.A., Wettenhall R.E.H., Hammonds R.G.,  
 RA Moseley J.M., Diefenbach-Jagger H., Rodda C.P., Kemp B.E.,  
 RA Rodriguez H., Chen E.Y., Hudson P.J., Martin T.J., Wood W.I.;  
 RA "A parathyroid hormone-related protein implicated in malignant  
 RT hypercalcemia: cloning and expression.";  
 RL Science 237:893-896 (1987).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=88124888; PubMed=2829195;  
 RA Mangin M., Webb A.C., Dreyer B.E., Posillico J.T., Ikeda K.,  
 RA Weir E.C., Stewart A.F., Bander N.H., Millsstone L., Barton D.E.,  
 RA Francke U., Broadus A.E.;  
 RA "Identification of a cDNA encoding a parathyroid hormone-like peptide  
 RT from a human tumor associated with humoral hypercalcemia of  
 RT malignancy.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 85:597-601 (1988).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=89214227; PubMed=2708388;  
 RA Yasuda T., Banville D., Hendy G.N., Goltzman D.;  
 RA "Characterization of the human parathyroid hormone-like peptide gene.  
 RT Functional and evolutionary aspects.";  
 RL J. Biol. Chem. 264:7720-7725 (1989).  
 RN [4]  
 RP NUCLEOTIDE SEQUENCE (ISOFORM 2).  
 RX MEDLINE=88262996; PubMed=3290897;  
 RA Thiede M.A., Stewler G.J., Nissenson R.A., Rosenblatt M., Rodan G.A.;  
 RA "Human renal carcinoma expresses two messages encoding a parathyroid  
 RT hormone-like peptide: evidence for the alternative splicing of a  
 RT single-copy gene.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 85:4605-4609 (1988).  
 RN [5]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 2).  
 RC TISSUE=Brain;  
 RX MEDLINE=88262996; PubMed=3290897;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,  
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahy J., Helton E., Kettaman M., Madan A., Rodriguez S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,  
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 RN [6]  
 RP NUCLEOTIDE SEQUENCE OF 1-33.  
 RC TISSUE=Liver;  
 RX MEDLINE=89306685; PubMed=2744490; DOI=10.1016/0378-1119(89)90363-6;  
 RA Suva L.J., Mather K.A., Gillespie M.T., Webb G.C., Ng K.W.,  
 RA Winslow G.A., Wood W.I., Martin T.J., Hudson P.J.;  
 RT "Structure of the 5' flanking region of the gene encoding human  
 RT parathyroid-hormone-related protein (PTHrP).";  
 RL Gene 77:95-105 (1989).  
 RN [7]  
 RP PROTEIN SEQUENCE OF 37-52.  
 RX MEDLINE=87260936; PubMed=2885845;  
 RA Moseley J.M., Kubota M., Diefenbach-Jagger H., Wettenhall R.E.H.,  
 RA Kemp B.E., Suva L.J., Rodda C.P., Ebelling P.R., Hudson P.J.,  
 RA Zajac J.D., Martin T.J.;  
 RA "Parathyroid hormone-related protein purified from a human lung cancer  
 RT cell line.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 84:5048-5052 (1987).  
 RN [8]  
 RP ALTERNATIVE SPLICING (ISOFORM 3).  
 RX MEDLINE=89184636; PubMed=2928340;  
 RA Mangin M., Ikeda K., Dreyer B.E., Broadus A.E.;  
 RA "Isolation and characterization of the human parathyroid hormone-like  
 RT peptide gene.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 86:2408-2412 (1989).  
 RN [9]  
 RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
 RX MEDLINE=92007462; PubMed=1915066;  
 RA Fenton A.J., Kemp B.E., Kent G.N., Moseley J.M., Zheng M.H.,  
 RA Rowe D.J., Britto J.M., Martin T.J., Nicholson G.C.;  
 RT "A carboxyl-terminal peptide from the parathyroid hormone-related  
 RT protein inhibits bone resorption by osteoclasts.";  
 RL Endocrinology 129:1762-1768 (1991).  
 RN [10]  
 RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
 RX MEDLINE=92063907; PubMed=1954916;  
 RA Fenton A.J., Kemp B.E., Hammonds R.G., Mitchell K., Moseley J.M.,  
 RA Martin T.J., Nicholson G.C.;  
 RT "A potent inhibitor of osteoclastic bone resorption within a highly  
 RT conserved pentapeptide region of parathyroid hormone-related protein;  
 RT PTHrP107-113.";  
 RL Endocrinology 129:3424-3426 (1991).  
 RN [11]  
 RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
 RX MEDLINE=97289439; PubMed=9144344;  
 RA Martinez M.E., Garcia-Ocana A., Sanchez M., Medina S., del Campo T.,  
 RA Valin A., Sanchez-Cabezudo M.J., Ebril P.;  
 RT "C-terminal parathyroid hormone-related protein inhibits proliferation  
 RT and differentiation of human osteoblast-like cells.";  
 RL J. Bone Miner. Res. 12:778-785 (1997).  
 RN [12]  
 RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
 RX MEDLINE=97200810; PubMed=9048639; DOI=10.1210/en.138.3.1299;  
 RA Cornish J., Callon K.E., Nicholson G.C., Reid I.R.;  
 RT "Parathyroid hormone-related protein-(107-139) inhibits bone  
 RT resorption in vivo.";  
 RL Endocrinology 138:1299-1304 (1997).

[13]  
RN NUCLEOCYTOPLASMIC SHUTTLLING.  
RP MEDLINE=22736810; PubMed=12852260; DOI=10.1016/S0083-6729(03)01010-0;  
RA Jans D.A., Thomas R.J., Gillespie M.T.;  
RT "Parathyroid hormone-related protein (PTHrP): a nucleocytoplasmic  
RL shuttling protein with distinct paracrine and intracrine roles.";  
[14]  
RN Vitam. Horm. 66:345-384 (2003).  
RN NUCLEAR LOCALIZATION SIGNAL.  
RP MEDLINE=21294781; PubMed=11401507; DOI=10.1006/bbrc.2001.4607;  
RA Lam M.H., Hu W., Xiao C.Y., Gillespie M.T., Jans D.A.;  
RT "Molecular dissection of the importin beta1-recognized nuclear  
RL targeting signal of parathyroid hormone-related protein.";  
[15]  
RN Biochem. Biophys. Res. Commun. 282:629-634 (2001).  
RN REVIEW  
RP MEDLINE=22425984; PubMed=12538599; DOI=10.1210/en.2002-220818;  
RA Fiaschi-Taesch N.M., Stewart A.F.;  
RT "Minireview: parathyroid hormone-related protein as an intracrine  
RL factor -- trafficking mechanisms and functional consequences.";  
[16]  
RN Endocrinology 144:407-411 (2003).  
RN STRUCTURE BY NMR OF 37-70.  
RP MEDLINE=99158054; PubMed=10050767; DOI=10.1016/S0014-5793(98)01658-5;  
RA Weidner M., Marx U.C., Seidel G., Schafer W., Hoffmann E., Esswein A.,  
RL Rosch P.;  
RT "The structure of human parathyroid hormone-related protein(1-34) in  
RL near-physiological solution.";  
[17]  
RN FEBS Lett. 444:239-244 (1999).  
RN X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS) OF 103-130.  
RP MEDLINE=22394015; PubMed=12504010; DOI=10.1016/S1097-2765(02)00727-X;  
RA Cingolani G., Bednenko J., Gillespie M.T., Gerace L.;  
RT "Molecular basis for the recognition of a nonclassical nuclear  
RL localization signal by importin beta.";  
[18]  
RN Mol. Cell 10:1345-1353 (2002).  
RN -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth.  
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption.  
CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted.  
CC -!- ALTERNATIVE PRODUCTS:  
CC Event=Alternative splicing; Named isoforms=3;  
CC Comment=Additional isoforms seem to exist;  
CC Name=1;  
CC IsoId=P12272-1; Sequence=Displayed;  
CC Name=2;  
CC IsoId=P12272-2; Sequence=VSP\_004534;  
CC Name=3;  
CC IsoId=P12272-3; Sequence=VSP\_004535;  
CC -!- TISSUE SPECIFICITY: Ubiquitous. Also expressed in the mammary  
CC gland.  
CC -!- PTM: There are 3 principal secretory forms, called PTHrP[1-36],  
CC PTHrP[38-94], and osteostatin (PTHrP[107-139]) arising from  
CC endoproteolytic cleavage of the initial translation product. Each  
CC of these secretory forms is believed to have one or more of its  
CC own receptors that mediates the normal paracrine, autocrine and  
CC endocrine actions.  
CC -!- DISEASE: Produced by many tumors from patients with HHM (humoral  
CC hypercalcemia of malignancy).  
CC -!- SIMILARITY: Belongs to the parathyroid hormone family.  
-----  
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
-----  
CC EMBL; M17183; AAA60221.1; -; Genomic\_DNA.

Query Match 100.0%; Score 46; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.43;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 AVSEHQLLH 9  
DB 37 AVSEHQLLH 45  
RESULT 12  
PTHrP RABIT STANDARD; PRT; 177 AA.  
AC Q9GLC7;  
DT 16-OCT-2001 (Rel. 40, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrP)  
DE [Contains: Osteostatin].  
GN Name=PTHrP; Synonyms=PTHrP;  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae;  
OC Oryctolagus  
OX NCBI\_TaxID=9986;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA McCaughern-Garucci J.F., Mitnick M., Emanuel J.R., Dworetzky S.I.;  
RT "Cloning and expression of rabbit parathyroid hormone-related  
RL protein.";  
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth  
CC (By similarity).  
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption (By similarity).  
CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
CC similarity).  
CC -!- PTM: There are several secretory forms, including osteostatin,  
CC arising from endoproteolytic cleavage of the initial translation  
CC product. Each of these secretory forms is believed to have one or  
CC more of its own receptors that mediates the normal paracrine,  
CC autocrine and endocrine actions (By similarity).  
CC -!- SIMILARITY: Belongs to the parathyroid hormone family.  
-----  
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CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
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CC EMBL; AF300703; AAG13414.1; -; mRNA.  
CC HSSP; P12272; 1BZG.  
CC InterPro; IPR001415; Parathyroid hrm.  
CC InterPro; IPR003626; PTH-related.  
CC PANTHER; PTHR17223; PTH-related; 1.  
CC Pfam; PF01279; Parathyroid; 1.  
CC ProDom; PD013225; PTH-related; 1.  
CC SMART; SM00087; PTH; 1.  
CC PROSITE; PS00335; PARATHYROID; 1.  
CC Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;  
CC Signal.  
KW SIGNAL.  
FT SIGNAL 1 24 Potential.  
FT PROPEP 25 34 By similarity.  
FT CHAIN 37 177 Parathyroid hormone-related protein.  
FT PEPTIDE 143 175 Osteostatin (By similarity).  
FT MOTIF 108 129 Nuclear localization signal (By  
FT similarity).  
SQ SEQUENCE 177 AA; 20005 MW; E2D9F4327657B919 CRC64;  
Query Match 100.0%; Score 46; DB 1; Length 177;



Best Local Similarity 100.0%; Pred. No. 0.43; Mismatches 0; Indels 0; Gaps 0;  
Matches 9; Conservative 0;

Qy 1 AVSEHQLLH 9  
Db 37 AVSEHQLLH 45

# RESULT 13

PTHrR RAT STANDARD; PRT; 177 AA.  
AC P13085;  
DT 01-JAN-1990 (Rel. 13, Created)  
DT 01-JAN-1990 (Rel. 13, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTHrP) (PLP)  
DE [Contains: Osteostatin].  
GN Name=PTHr; Synonyms=PTHr;  
OS Rattus norvegicus (Rat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
OC Muridea; Muridae; Murinae; Rattus.  
OX NCBI\_TaxID=10116;  
[1]  
RN RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=89019161; PubMed=3175653;  
RA Thiede M.A., Rodan G.A.;  
RT "Expression of a calcium-mobilizing parathyroid hormone-like peptide  
in lactating mammary tissue.";  
RL Science 242:278-280(1988).  
[2]  
RN RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=89313794; PubMed=2747658;  
RA Yasuda T., Banville D., Rabbani S.A., Hendy G.N., Goltzman D.;  
RT "Rat parathyroid hormone-like peptide: comparison with the human  
homologue and expression in malignant and normal tissue.";  
RL Mol. Endocrinol. 3:518-525(1989).  
[3]  
RN RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=90259937; PubMed=2342478;  
RA Karaplis A.C., Yasuda T., Hendy G.N., Goltzman D.;  
RT "Gene-encoding parathyroid hormone-like peptide: nucleotide sequence  
of the rat gene and comparison with the human homologue.";  
RL Mol. Endocrinol. 4:441-446(1990).

CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
cellular and organ growth, development, migration, differentiation  
and survival and of epithelial calcium ion transport. Regulates  
endochondral bone development and epithelial-mesenchymal  
interactions during the formation of the mammary glands and teeth  
(By similarity).  
CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
resorption (By similarity).  
CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
similarity).  
CC -1- PTM: There are several secretory forms, including osteostatin,  
arising from endoproteolytic cleavage of the initial translation  
product. Each of these secretory forms is believed to have one or  
more of its own receptors that mediates the normal paracrine,  
autocrine and endocrine actions (By similarity).  
CC -1- SIMILARITY: Belongs to the parathyroid hormone family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
between the Swiss Institute of Bioinformatics and the EMBL outstation -  
the European Bioinformatics Institute. There are no restrictions on its  
use as long as its content is in no way modified and this statement is not  
removed.

CC EMBL; M21967; AAA41981.1; -; mRNA.  
CC EMBL; M31603; AAA41980.1; -; mRNA.  
CC EMBL; M34112; AAA41889.1; -; Genomic DNA.  
CC EMBL; M34108; AAA41889.1; JOINED; Genomic DNA.  
CC EMBL; M34111; AAA41889.1; JOINED; Genomic DNA.  
CC PIR; A34723; A30012.

DR HSP; P12272; IBZG.  
DR RGD; 3441; Pthlh.  
DR InterPro; IPR001415; Parathyrd\_hrm.  
DR InterPro; IPR003626; PTH\_related.  
DR PANTHER; PTHR17223; PTH\_related; 1.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH\_related; 1.  
DR SMART; SM00087; PTH\_1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;  
KW Signal.  
FT SIGNAL 1 24 Potential.  
FT PROPEP 25 34  
FT CHAIN 37 177 Parathyroid hormone-related protein.  
FT PEPTIDE 143 175 Osteostatin (by similarity).  
FT MOTIF 108 129 Nuclear localization signal (By  
similarity).  
SQ SEQUENCE 177 AA; 20204 MW; 11091EC48CA73B20 CRC64;

Query Match 100.0%; Score 46; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.43;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 37 AVSEHQLLH 45

# RESULT 14

Q6FH74 HUMAN  
ID Q6FH74\_HUMAN PRELIMINARY; PRT; 177 AA.  
AC Q6FH74;  
DT 10-MAY-2005 (TRENBLrel. 30, Created)  
DT 10-MAY-2005 (TRENBLrel. 30, Last sequence update)  
DT 10-MAY-2005 (TRENBLrel. 30, Last annotation update)  
DE PTHLH protein (Fragment).  
GN Name=PTHLH;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Halleck A., Ebert L., Mkoondinya M., Schick M., Eisenstein S.,  
RA Neubert P., Kstrang K., Schatten R., Shen B., Henze S., Mar W.,  
RA Korn B., Zuo D., Hu Y., LaBaer J.;  
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; CR541882; CAG46680.1; -; mRNA.  
FT NON\_TER 177 177  
SQ SEQUENCE 177 AA; 20194 MW; 449DFEE954C51DB CRC64;

Query Match 100.0%; Score 46; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.43;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 37 AVSEHQLLH 45

# RESULT 15

Q65902 PHOVI  
ID Q65902\_PHOVI PRELIMINARY; PRT; 177 AA.  
AC Q65902;  
DT 25-OCT-2004 (TRENBLrel. 28, Created)  
DT 25-OCT-2004 (TRENBLrel. 28, Last sequence update)  
DT 25-OCT-2004 (TRENBLrel. 28, Last annotation update)  
DE Parathyroid hormone related protein (Fragment).  
GN Name=pthlp;  
OS Phoca vitulina (Harbor seal).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Pinnipedia; Phocidae;



OC Phoca.  
OX NCBI\_TaxID=9720;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond H.A.; Bennett K.A.; Walton M.J.; Hall A.J.;  
RT "Molecular cloning and expression of leptin from seals and its  
RT potential role in the control of pinniped pulmonary surfactant  
RT secretion.";  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond J.A.;  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AJ831411; CAH39862.1; -; mRNA.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyrd hrm.  
DR InterPro; IPR003626; PTH related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH\_related; 1.  
DR SMART; SM00087; PTH; 1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
FT NON TER 177 177  
SQ SEQUENCE 177 AA; 20284 MW; 6B9941EBD22F5397 CRC64;

Query Match 100.0%; Score 46; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.43;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLIH 9  
Db 37 AVSEHQLIH 45

Search completed: December 2, 2005, 23:19:34  
Job time : 29.2281 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:28:10 ; Search time 6.11798 Seconds  
(without alignments)  
121.622 Million cell updates/sec

**Title:** US-10-691-125-2

Perfect score: 46

Sequence: 1 AVSEHQLLH 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs. 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Cost Processing: Minimum Match 0%  
Maximum Match 100%

Maximum match: 100%  
Listing first 45 summaries

Database :

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Issued Patents AA:*
1: /cgn2_6/ptodata/1/aa/5 COMB pep.*
2: /cgn2_6/ptodata/1/aa/6 COMB pep.*
3: /cgn2_6/ptodata/1/aa/H COMB pep.*
4: /cgn2_6/ptodata/1/aa/pCTUS COMB pep.*
5: /cgn2_6/ptodata/1/aa/RE COMB pep.*
6: /cgn2_6/ptodata/1/aa/backfiles1 pep.*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query %		Length	DB	ID	Description
		Match					
1	46	100.0	9	2	US-09-421-379-8	Sequence 8, Appl	
2	46	100.0	12	2	US-08-903-124-87	Sequence 87, Appl	
3	46	100.0	14	2	US-09-421-379-4	Sequence 4, Appl	
4	46	100.0	16	6	5460978-4	Patent No. 5460978	
5	46	100.0	19	6	5217896-1	Patent No. 5217896	
6	46	100.0	29	2	US-09-843-221A-152	Sequence 152, App	
7	46	100.0	30	2	US-09-843-221A-76	Sequence 76, Appl	
8	46	100.0	30	2	US-09-843-221A-79	Sequence 79, Appl	
9	46	100.0	30	2	US-09-843-221A-134	Sequence 134, App	
10	46	100.0	30	2	US-09-843-221A-135	Sequence 135, App	
11	46	100.0	30	2	US-09-843-221A-136	Sequence 136, App	
12	46	100.0	30	2	US-09-843-221A-137	Sequence 137, App	
13	46	100.0	30	2	US-09-843-221A-138	Sequence 138, App	
14	46	100.0	30	2	US-09-843-221A-144	Sequence 144, App	
15	46	100.0	30	2	US-09-843-221A-145	Sequence 145, App	
16	46	100.0	30	2	US-09-843-221A-147	Sequence 147, App	
17	46	100.0	30	2	US-09-843-221A-148	Sequence 148, App	
18	46	100.0	30	2	US-09-843-221A-149	Sequence 149, App	
19	46	100.0	30	2	US-09-843-221A-151	Sequence 151, App	
20	46	100.0	30	2	US-09-843-221A-153	Sequence 153, App	
21	46	100.0	30	2	US-09-843-221A-154	Sequence 154, App	
22	46	100.0	30	2	US-09-843-221A-155	Sequence 155, App	
23	46	100.0	30	2	US-09-843-221A-156	Sequence 156, App	
24	46	100.0	30	2	US-09-843-221A-157	Sequence 157, App	
25	46	100.0	31	2	US-09-843-221A-78	Sequence 78, Appl	
26	46	100.0	32	1	US-08-449-500-56	Sequence 56, Appl	
27	46	100.0	32	1	US-08-449-317A-56	Sequence 56, Appl	

## ALIGNMENTS

## RESULT 1

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US-09-421-379-8
; Sequence 8, Application US/09421379
; Patent No. 6495662
; GENERAL INFORMATION:
; APPLICANT: Gardella, Thomas J.
; APPLICANT: Kronenberg, Henry
; APPLICANT: Potts, John T.
; APPLICANT: Juppner, Harald
; TITLE OF INVENTION: Bioactive Peptides and Pept
; TITLE OF INVENTION: Parathyroid Hormone (PTH) a
; TITLE OF INVENTION: Hormone-Related Peptide (PTH
; FILE REFERENCE: 0609.4570001
; CURRENT APPLICATION NUMBER: US/09/421.379
; CURRENT FILING DATE: 1998-10-20
; EARLIER APPLICATION NUMBER: U.S. 60/105,530
; EARLIER FILING DATE: 1998-10-22
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial S
; US-09-421-379-8
; OTHER INFORMATION: peptide
; US-09-421-379-8

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Query Match      100.0%; Score 46; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.6e+05;
Matches 9: Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 1 AVSEHQLH 9  
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Dp 1 AVSEHQLH 9  
|||||

## RESULT 2

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US-08-903-124-87
; Sequence 87, Application US/08903124A
; Patent No. 6849710
; GENERAL INFORMATION:
; APPLICANT: Arzeno, Humberto
; TITLE OF INVENTION: Method for the Synthesis of Parathyroid
; TITLE OF INVENTION: Hormone and Parathyroid Hormone Related Peptide
; FILE REFERENCE: Sequence ID for 08/903,124
; Patent No. 6849710
; CURRENT APPLICATION NUMBER: US/08/903,124A
; CURRENT FILING DATE: 1997-07-30
; EARLIER APPLICATION NUMBER: 60/023,322

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; EARLIER FILING DATE: 1996-07-30
; NUMBER OF SEQ ID NOS: 91
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 87
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-903-124-87

Query Match      100.0%; Score 46; DB 2; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.023;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 3
US-09-421-379-4
; Sequence 4, Application US/09421379
; Patent No. 6495662
; GENERAL INFORMATION:
; APPLICANT: Gardella, Thomas J.
; APPLICANT: Kronenberg, Henry
; APPLICANT: Potts, John T.
; APPLICANT: Juppner, Harald
; TITLE OF INVENTION: Bioactive Peptides and Peptide Derivatives of
; TITLE OF INVENTION: Parathyroid Hormone (PTH) and Parathyroid
; TITLE OF INVENTION: Hormone-Related Peptide (PTHrP)
; FILE REFERENCE: 0609 4570001
; CURRENT APPLICATION NUMBER: US/09/421,379
; CURRENT FILING DATE: 1999-10-20
; EARLIER APPLICATION NUMBER: U.S. 60/105,530
; EARLIER FILING DATE: 1998-10-22
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 14
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: peptide
US-09-421-379-4

Query Match      100.0%; Score 46; DB 2; Length 14;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 4
5460978-4
; Patent No. 5460978
; APPLICANT: MARTIN, THOMAS J.; MOSELEY, JANE M.; KEMP,
; BRUCE E.; WETTENHALL, RICHARD E.H.
; TITLE OF INVENTION: PROTEIN ACTIVE IN HUMORAL
; HYPERCALCAEMIA OF MALIGNANCY-PTHrP
; NUMBER OF SEQUENCES: 4
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/715,280
; FILING DATE: 14-JUN-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 199,235
; FILING DATE: 09-MAY-1988
; APPLICATION NUMBER:
; FILING DATE:
; SEQ ID NO:4
; LENGTH: 16
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5460978-4

Query Match      100.0%; Score 46; DB 6; Length 16;
Best Local Similarity 100.0%; Pred. No. 0.031;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 5
5217896-1
; Patent No. 5217896
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS
; JR., FREDERICK H.; SORVILLO, JOHN M.
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING
; PARATHYROID HORMONE-LIKE PROTEIN
; NUMBER OF SEQUENCES: 8
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/292,263
; FILING DATE: 30-DEC-1988
; SEQ ID NO:1
; LENGTH: 19
5217896-1

Query Match      100.0%; Score 46; DB 6; Length 19;
Best Local Similarity 100.0%; Pred. No. 0.037;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 2 AVSEHQLLH 10

RESULT 6
US-09-843-221A-152
; Sequence 152, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 152
; LENGTH: 29
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-152

Query Match      100.0%; Score 46; DB 2; Length 29;
Best Local Similarity 100.0%; Pred. No. 0.057;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9
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RESULT 7
US-09-843-221A-76
; Sequence 76, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 76
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-843-221A-76

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
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RESULT 8
US-09-843-221A-79
; Sequence 79, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 79
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: misc feature
; LOCATION: (12)..(12)
; OTHER INFORMATION: D amino acid
US-09-843-221A-79

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
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RESULT 9
US-09-843-221A-134
; Sequence 134, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 134
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-134

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
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RESULT 10
US-09-843-221A-135
; Sequence 135, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 135
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-135

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
|||||||
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Db      1 AVSEHQLLH 9
|||||||

RESULT 9
US-09-843-221A-134
; Sequence 134, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 134
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-134

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
|||||||

RESULT 10
US-09-843-221A-135
; Sequence 135, Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 135
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-135

Query Match          100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 AVSEHQLLH 9
Db      1 AVSEHQLLH 9
|||||||
```

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 46; DB 2; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.059;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEHQLLH 9

## RESULT 11

US-09-843-221A-136  
; Sequence 136, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 136  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-136

Query Match 100.0%; Score 46; DB 2; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.059;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEHQLLH 9

## RESULT 12

US-09-843-221A-137  
; Sequence 137, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 137  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-137

Query Match 100.0%; Score 46; DB 2; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.059;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEHQLLH 9

## RESULT 13

US-09-843-221A-138  
; Sequence 138, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 138  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-138

Query Match 100.0%; Score 46; DB 2; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.059;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEHQLLH 9

## RESULT 14

US-09-843-221A-144  
; Sequence 144, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 144  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-144

```
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-144

Query Match      100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
   |||||
Db 1 AVSEHQQLLH 9

RESULT 15
US-09-843-221A-145
; Sequence 145. Application US/09843221A
; Patent No. 6756480
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ-ID NOS: 170
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 145
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-145

Query Match      100.0%; Score 46; DB 2; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.059;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
   |||||
Db 1 AVSEHQQLLH 9
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Search completed: December 2, 2005, 22:38:21  
Job time : 7.11798 secs

**This Page Blank (uspto)**



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:03:56 ; Search time 27.6404 Seconds  
(without alignment)  
158.962 Million cell updates/sec

Title: US-10-691-125-3

Perfect score: 55

Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A Geneseq\_21.\*

1: geneseqp1980s.\*

2: geneseqp1990s.\*

3: geneseqp2000s.\*

4: geneseqp2001s.\*

5: geneseqp2002s.\*

6: geneseqp2003as.\*

7: geneseqp2003bs.\*

8: geneseqp2004s.\*

9: geneseqp2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	55	100.0	10	ADW99592	Adw99592 Human par
2	55	100.0	17	ADT94444	Adt94444 Peptide #
3	55	100.0	20	ADF77401	Adf77401 Parathyro
4	55	100.0	21	AAR27973	Aar27973 (Tyr34) h
5	55	100.0	21	AAR27972	Aar27972 Truncated
6	55	100.0	21	ADT94440	Adt94440 Peptide #
7	55	100.0	21	AAR27065	Aar27065 hHCP[11-3
8	55	100.0	24	AAR27066	Aar27066 [Tyr34]hH
9	55	100.0	25	AAR27073	Aar27073 [Leu11, D
10	55	100.0	25	AAR27064	Aar27064 hHCP[10-3
11	55	100.0	25	AAR27979	Aar27979 (D-Trp12)
12	55	100.0	26	AAR84305	Aar84305 Parathyro
13	55	100.0	27	AAR21497	Aar21497 Desamino[
14	55	100.0	27	AAR21494	Aar21494 Desamino
15	55	100.0	27	AAR21493	Aar21493 Desamino[
16	55	100.0	27	AAR21496	Aar21496 Desamino
17	55	100.0	27	AAR21483	Aar21483 Biotinyla
18	55	100.0	27	AAR21486	Aar21486 Biotinyla
19	55	100.0	27	AAR21484	Aar21484 D-Trp-1ly
20	55	100.0	27	AAR21487	Aar21487 Biotinyla
21	55	100.0	27	AAR84303	Aar84303 Parathyro
22	55	100.0	27	AAR87030	Aar87030 [desamino
23	55	100.0	27	AAU73085	AAU73085 Parathyro
24	55	100.0	27	AAU73086	AAU73086 Parathyro

25	55	100.0	27	8	ADQ75401	Adq75401 PTH/PTHrP
26	55	100.0	27	8	ADQ75400	Adq75400 PTH/PTHrP
27	55	100.0	28	2	AAR14728	Aar14728 Human par
28	55	100.0	28	2	AAR21490	Aar21490 Desamino
29	55	100.0	28	2	AAR21495	Aar21495 Desamino
30	55	100.0	28	2	AAR21488	Aar21488 Desamino[
31	55	100.0	28	2	AAR21491	Aar21491 Desamino
32	55	100.0	28	2	AAR21489	Aar21489 Desamino
33	55	100.0	28	2	AAR21492	Aar21492 Desamino
34	55	100.0	28	2	AAR27069	Aar27069 [Leu11]hH
35	55	100.0	28	2	AAR27072	Aar27072 [Leu11, D
36	55	100.0	28	2	AAR27974	Aar27974 [Leu23] h
37	55	100.0	28	2	AAR27976	Aar27976 [Leu11] h
38	55	100.0	28	2	AAR21485	Aar21485 Biotinyla
39	55	100.0	28	2	AAR21481	Aar21481 Biotinyla
40	55	100.0	28	2	AAR21479	Aar21479 [Lys11/13
41	55	100.0	28	2	AAR21480	Aar21480 Biotinyla
42	55	100.0	28	2	AAR21482	Aar21482 D-Trp-1ly
43	55	100.0	28	2	AAR21478	Aar21478 [Leu11, D
44	55	100.0	28	2	AAW15832	AAW15832 N-alpha-3
45	55	100.0	28	2	AAW15820	AAW15820 [Trp(10)]

## ALIGNMENTS

### RESULT 1

ADW99592

ID ADW99592 standard; peptide; 10 AA.

XX AC ADW99592;

XX DT 21-APR-2005 (first entry)

XX DE Human parathyroid hormone-related peptide PTR-2.

XX KW recombinant protein; cytostatic; vaccine; immune stimulation;

XX KW immunostimulatory; parathyroid hormone related peptide; tumor;

XX KW metastasis.

XX OS Homo sapiens.

XX PN US2005033023-A1.

XX PD 10-FEB-2005.

XX PF 21-OCT-2003; 2003US-00691125.

XX PR 21-OCT-2002; 2002US-0420165P.

XX PA (CORR/) CORREALE P.

XX PA (CUSI/) CUSI M G.

XX PI (FRAN/) FRANCINI G.

XX PI Corraele P, Cusi MG, Francini G;

XX DR WPI; 2005-151693/16.

XX PT Novel isolated immunostimulatory parathyroid hormone related peptide (PTH-rP), useful for immunizing and treating subjects against metastases and tumors.

XX PS Claim 2; SEQ ID NO 3; 35pp; English.

XX CC The invention relates to an isolated immunostimulatory parathyroid hormone related peptide (PTH-rP) (I) comprising a fragment of the amino acid sequence of a fully defined sequence (S1) of 141 amino acids as given in the specification, or its functional variant comprising one or more amino acid additions, substitution or deletions. (I) is useful for generating T cells active against PTH-rP expressing tumors and CC CC metastasis, which involves stimulating T cells in the presence of antigen presenting cells that have been exposed to (I). The antigen presenting cells have been infected with virosones containing PTH-rP plasmids,

CC virosomes encapsulating (I) or virosomes comprising (I) crosslinked to  
 CC its surface. (I) is useful for generating a T cell response specific for  
 CC PTH-rp, which involves immunizing a subject with (I). The protein, an  
 CC epitope from it, DNA encoding it, vectors and host cells are useful for  
 CC inducing an immune response against PTH-rp expressing tumors and  
 CC metastasis, by immunization. They are useful for treating PTH-rp  
 CC expressing tumors and metastasis, immunizing a subject against metastasis  
 CC and tumors or for preventing the occurrence or recurrence of PTH-rp  
 CC expressing tumors and metastasis. This sequence corresponds to a peptide  
 CC from the human PTH-rp protein.

XX SQ Sequence 10 AA;

Query Match 100.0%; Score 55; DB 9; Length 10;  
 Best Local Similarity 100.0%; Pred. No. 0.0079;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
 |||||  
 Db 1 FLHLLIAEIH 10

# RESULT 2

ADT94444  
 ID ADT94444 standard; peptide; 17 AA.

XX AC ADT94444;

XX DT 27-JAN-2005 (first entry)

XX DE Peptide #7 used to construct a hair growth modulating peptide.

XX KW Human; stimulate hair growth; inhibit hair growth;  
 KW parathyroid hormone-related protein; PTHrP; parathyroid hormone; PTH;  
 KW Type 1 PTH/PTHrP receptor; PTHrR; inverse agonist; agonist;  
 KW topical application; skin; hair loss; psoriasis; unwanted hair;  
 KW antipsoriatic; depilatory; mutant; mutein.

XX OS Homo sapiens.  
 OS Synthetic.

XX FH Key Location/Qualifiers  
 FT Modified-site 17  
 FT /note= "Modified by NH2"

XX FN US2004220094-A1.

XX PD 04-NOV-2004.

XX PF 01-MAY-2003; 2003US-00428377.

XX PR 01-MAY-2003; 2003US-00428377.

XX PA (SKIN/) SKINNER K K.

XX PI Skinner KK;

XX WPI; 2004-794470/78.

XX DR New parathyroid hormone receptor inverse agonist and agonist peptides  
 XX that stimulate or inhibit hair growth, useful for treating hair loss,  
 XX psoriasis, or unwanted hair.

XX PS Disclosure; SEQ ID NO 14; 25pp; English.

XX CC The invention relates to peptides that stimulate or inhibit hair growth.  
 CC The novel peptides are (a) inverse agonists of parathyroid hormone-  
 CC related protein (PTHrP) and parathyroid hormone (PTH) activity on the  
 CC Type 1 PTH/PTHrP receptor (PTHrR), or (b) agonists of PTHrP and PTH  
 CC activity on PTHrR. Also disclosed are compositions comprising the  
 CC peptides, methods of preparing the peptides, methods for their use, and  
 CC methods of assaying them for inverse agonist and agonist activities. The  
 CC compositions are formulated for topical application to areas of the skin.

CC Administration can also be transdermal or systemic. The peptides are  
 CC useful for the treatment of hair loss, psoriasis, or unwanted hair. This  
 CC sequence represents a peptide used to construct a peptide of the  
 CC invention.

XX SQ Sequence 17 AA;

Query Match 100.0%; Score 55; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 0.014;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
 |||||  
 Db 6 FLHLLIAEIH 15

# RESULT 3

ADF77401  
 ID ADF77401 standard; peptide; 20 AA.

XX AC ADF77401;

XX DT 26-FEB-2004 (first entry)

XX DE Parathyroid hormone amino acid sequence hPTHrP(15-34) SEQ ID NO:22.

XX KW vaginal atrophy; parathyroid hormone; PTH; gynaecological;  
 KW antiinflammatory; antibacterial; antipruritic; antiulcer; haemostatic;  
 KW human.

XX OS Synthetic.  
 OS Homo sapiens.

XX PN W02003099849-A2.

XX PD 04-DEC-2003.

XX PF 23-MAY-2003; 2003WO-US016478.

XX PR 23-MAY-2002; 2002US-0382905P.

XX PA (HOLI/) HOLICK M.

XX PI Holick M;

XX WPI; 2004-062062/06.

XX DR Use of parathyroid hormone peptide and peptide analogs for the treatment  
 XX of vaginal atrophy and associated symptoms e.g. ulcer, inflammation.

XX PS Disclosure; SEQ ID NO 22; 38pp; English.

XX CC The present invention describes a method for the treatment of vaginal  
 CC atrophy which involves the administration of parathyroid hormone (PTH)  
 CC peptide (I) or PTH analogue (II). (I) is preferably human PTH (hPTH) (1-  
 CC 34 or 7-34) or human PTH related protein (hPTHrP) (1-34 or 7-34). (II) is  
 CC at least five amino acids long and has at least 10 % sequence identity  
 CC with that of the N-terminal region of hPTH or hPTHrP. Also described: (1)  
 CC treatment of vaginal atrophy involving administration of a hPTH/PTHrP  
 CC receptor antagonist (A1) or a hPTH-2 receptor antagonist (A2); and (2) a  
 CC kit comprising (I) or (II) and an applicator. PTH has gynaecological,  
 CC antiinflammatory, antibacterial, antipruritic, antiulcer and haemostatic  
 CC activities. (I) and (II) can be used for treating vaginal atrophy and  
 CC associated symptoms including vaginal dryness, discomfort, itching, The  
 CC bacterial infections, inflammation, ulcer, discharge and bleeding. The  
 CC present sequence is given in the exemplification of the present  
 CC invention.

XX SQ Sequence 20 AA;

Query Match 100.0%; Score 55; DB 8; Length 20;  
 Best Local Similarity 100.0%; Pred. No. 0.017;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
 |||||  
 Db 9 FLHLLIAEIH 18

RESULT 4  
 AAR27973  
 ID AAR27973 standard; protein; 21 AA.  
 AC AAR27973;  
 XX 25-MAR-2003 (revised)  
 DT 26-NOV-1992 (first entry)  
 XX (Tyr34) hHCF (14-34) generic analogue.  
 XX humoral hypercalcaemic factor; hypercalcaemia; osteoporosis;  
 KW hyperparathyroidism; tumour overproduction; assay; hypercalcaemic crisis;  
 KW renal failure; hypertension; inflammation; allergy;  
 KW hyperactive lymphocytes.  
 XX Synthetic.  
 OS US5114843-A.  
 XX 19-MAY-1992.  
 XX 25-FEB-1991; 91US-00662340.  
 XX 09-MAY-1988; 88US-00191513.  
 PR 21-APR-1989; 89US-00341530.  
 XX (MERI ) MERCK & CO INC.  
 FA Rosenblatt M, McKee RL, Caulfield MP, Nutt RF;  
 PI WPI; 1992-192175/23.  
 XX Peptide analogues of humoral hypercalcaemia factor - useful for treating  
 PT hypercalcaemia or osteoporosis, hyperparathyroidism or disease associated  
 PT with tumour over prodn. of hHCF.  
 XX Disclosure; Col 2; 5pp; English.  
 XX This sequence represents one of several novel peptide analogues of  
 CC humoral hypercalcaemic factor (hHCF), as found in the disclosure. The  
 CC peptides are antagonists of hHCF, and may be used to treat osteoporosis,  
 CC hypercalcaemia, hyperparathyroidism, eg. expressed as a hypercalcaemic  
 CC crisis, renal failure, or hypertension, and disease states produced by a  
 CC tumour or other cell overproducing a peptide hormone-like molecule eg.  
 CC the hHCF of malignancy. They may also be used to treat immune diseases  
 CC involving inflammation, an allergic response or hyperactive lymphocytes.  
 CC A further use may be in an assay of natural hHCF levels. The peptides  
 CC have high binding affinity for their receptors, while not stimulating the  
 CC production of second messenger molecules with concurrent physiological  
 CC response. NOTE: In the specification 11e14 is quoted as being substituted  
 CC by other amino acids, however Ile occurs only at position 15 in the full  
 CC sequence disclosed for hHCF, and this is the position at which the  
 CC substitutions have been made in the sequence given. (Updated on 25-MAR-  
 CC 2003 to correct PF field.)

QY 1 FLHLLIAEIH 10  
 |||||  
 Db 10 FLHLLIAEIH 19

Query Match 100.0%; Score 55; DB 2; Length 21;  
 Best Local Similarity 100.0%; Pred. No. 0.018;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 6  
 ADT94440  
 ID ADT94440 standard; peptide; 21 AA.  
 XX ADT94440;  
 XX 27-JAN-2005 (first entry)

RESULT 5  
 AAR27972  
 ID AAR27972 standard; protein; 21 AA.  
 XX AAR27972;  
 AC AAR27972;  
 XX 25-MAR-2003 (revised)  
 DT 26-NOV-1992 (first entry)  
 XX Truncated hHCF (14-34).  
 XX humoral hypercalcaemic factor; hypercalcaemia; osteoporosis;  
 KW hyperparathyroidism; tumour overproduction; assay; hypercalcaemic crisis;  
 KW renal failure; hypertension; inflammation; allergy;  
 KW hyperactive lymphocytes.  
 XX Synthetic.  
 OS US5114843-A.  
 XX 19-MAY-1992.  
 XX 25-FEB-1991; 91US-00662340.  
 XX 09-MAY-1988; 88US-00191513.  
 PR 21-APR-1989; 89US-00341530.  
 XX (MERI ) MERCK & CO INC.  
 FA Rosenblatt M, McKee RL, Caulfield MP, Nutt RF;  
 PI WPI; 1992-192175/23.  
 XX Peptide analogues of humoral hypercalcaemia factor - useful for treating  
 PT hypercalcaemia or osteoporosis, hyperparathyroidism or disease associated  
 PT with tumour over prodn. of hHCF.  
 XX Disclosure; Col 2; 5pp; English.  
 XX This sequence represents a truncated novel peptide analogue of humoral  
 CC hypercalcaemic factor (hHCF), as found in the disclosure. The peptide is  
 CC an antagonists of hHCF, and may be used to treat osteoporosis,  
 CC hypercalcaemia, hyperparathyroidism, eg. expressed as a hypercalcaemic  
 CC crisis, renal failure, or hypertension, and disease states produced by a  
 CC tumour or other cell overproducing a peptide hormone-like molecule eg.  
 CC the hHCF of malignancy. It may also be used to treat immune diseases  
 CC involving inflammation, an allergic response or hyperactive lymphocytes.  
 CC A further use may be in an assay of natural hHCF levels. The peptide has  
 CC high binding affinity for its receptor, while not stimulating the  
 CC production of second messenger molecules with concurrent physiological  
 CC response. NOTE: In the specification 11e14 is quoted as being substituted  
 CC by other amino acids, however Ile occurs only at position 15 in the full  
 CC sequence disclosed for hHCF. (Updated on 25-MAR-2003 to correct PF  
 CC field.)

QY 1 FLHLLIAEIH 10  
 |||||  
 Db 10 FLHLLIAEIH 19

Query Match 100.0%; Score 55; DB 2; Length 21;  
 Best Local Similarity 100.0%; Pred. No. 0.018;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 6  
 ADT94440  
 ID ADT94440 standard; peptide; 21 AA.  
 XX ADT94440;  
 XX 27-JAN-2005 (first entry)



```
XX PA (MERI ) MERCK & CO INC.
XX PT
XX PI Chorev M, Roubini E;
XX DR WPI; 1992-340294/41.
XX
XX New peptide derivs. are humoral hypercalcaemia factor antagonists -
XX useful for treating osteoporosis, hypercalcaemia, parathyroidism, immune
XX disorders, inflammation, etc.
XX
XX Disclosure; Page 3; 6pp; English.
XX
XX The peptide shows a truncated version of the first 34 N-terminal residues
XX of human humoral hypercalcaemic factor having an Ala->Tyr mutation at
XX position 24, i.e. [Yr34]hHCF[11-34]. A lactam bridge is present between
XX Lys3 and Asp7. The analogue of hHCF is an HCF antagonist useful for
XX treating e.g. osteoporosis, hypercalcaemia, parathyroidism, immune
XX disorders or inflammation. The lactam bridge confers rigidity to that
XX region of the peptide and enhances the helical nature and metabolic
XX stability of the peptide analogue. See also AAR27063-73
XX
XX Sequence 24 AA;
XX
XX Query Match 100.0%; Score 55; DB 2; Length 24;
XX Best Local Similarity 100.0%; Pred. No. 0.02;
XX Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX Qy 1 FLHLLIAEIH 10
XX Db 13 FLHLLIAEIH 22
XX
XX RESULT 9
XX AAR27073
XX ID AAR27073 standard; peptide; 25 AA.
XX
XX AC AAR27073;
XX
XX DT 03-MAR-1993 (first entry)
XX
XX [Leu11, D-Trp12]hHCF[10-34] contg. lactam bridge.
XX
XX Truncated; mutants; human; humoral hypercalcaemic factor; antagonists;
XX osteoporosis; parathyroidism; inflammation; immune; stable.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Modified-site 1 /note= "CH3CO deriv."
XX
XX Misc-difference 2
XX /note= "Lys -> Leu mutation"
XX
XX Misc-difference 3
XX /note= "Gly -> D-Trp mutation"
XX
XX Modified-site 4
XX /note= "site of lactam bridge to Asp 8"
XX
XX Modified-site 8
XX /note= "site of lactam bridge to Lys 4"
XX
XX US5149779-A.
XX
XX 22-SEP-1992.
XX
XX 26-JUL-1990; 90US-00557828.
XX
XX 26-JUL-1990; 90US-00557828.
XX
XX (MERI ) MERCK & CO INC.
XX
XX Chorev M, Roubini E;
XX
XX WPI; 1992-340294/41.
XX
XX New peptide derivs. are humoral hypercalcaemia factor antagonists -
XX useful for treating osteoporosis, hypercalcaemia, parathyroidism, immune
XX disorders, inflammation, etc.
XX
XX Disclosure; Page 3; 6pp; English.
XX
XX The peptide shows a truncated version of the first 34 N-terminal residues
XX of human humoral hypercalcaemic factor having an Lys->Leu mutation at
XX position 2 and a Gly->D-Trp mutation at position 3 i.e. [Leu11, D-
XX Trp12]hHCF[10-34]. A lactam bridge is present between Lys4 and Asp8. The
XX peptide fragment contains a region specific for binding to its cell
XX surface receptor but does not stimulate the prodn. of second messenger
XX molecules once bound. The analogue of hHCF is an HCF antagonist useful
XX for treating e.g. osteoporosis, hypercalcaemia, parathyroidism, immune
XX disorders or inflammation. The lactam bridge confers rigidity to that
XX region of the peptide and enhances the helical nature and metabolic
XX stability of the peptide analogue. See also AAR27063-72
XX
XX Sequence 25 AA;
XX
XX Query Match 100.0%; Score 55; DB 2; Length 25;
XX Best Local Similarity 100.0%; Pred. No. 0.021;
XX Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX Qy 1 FLHLLIAEIH 10
XX Db 14 FLHLLIAEIH 23
XX
XX RESULT 10
XX AAR27064
XX ID AAR27064 standard; peptide; 25 AA.
XX
XX AC AAR27064;
XX
XX DT 03-MAR-1993 (first entry)
XX
XX hHCF[10-34] contg. lactam bridge.
XX
XX Truncated; mutants; human; humoral hypercalcaemic factor; antagonists;
XX osteoporosis; parathyroidism; inflammation; immune; stable.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Modified-site 4 /note= "site of lactam bridge to Asp 8"
XX
XX Modified-site 8 /note= "site of lactam bridge to Lys 4"
XX
XX US5149779-A.
XX
XX 22-SEP-1992.
XX
XX 26-JUL-1990; 90US-00557828.
XX
XX 26-JUL-1990; 90US-00557828.
XX
XX (MERI ) MERCK & CO INC.
XX
XX Chorev M, Roubini E;
XX
XX WPI; 1992-340294/41.
XX
XX New peptide derivs. are humoral hypercalcaemia factor antagonists -
XX useful for treating osteoporosis, hypercalcaemia, parathyroidism, immune
XX disorders, inflammation, etc.
XX
XX Disclosure; Page 3; 6pp; English.
XX
XX The peptide shows a truncated version of the first 34 N-terminal residues
XX of human humoral hypercalcaemic factor, hHCF[10-34]. A lactam bridge is
```

CC present between Lys4 and Asp8. The analogue of hHCF is an HCF antagonist  
 CC useful for treating e.g. osteoporosis, hypercalcaemia; parathyroidism,  
 CC immune disorders or inflammation. The lactam bridge confers rigidity to  
 CC that region of the peptide and enhances the helical nature and metabolic  
 CC stability of the peptide analogue. See also AAR27063-73  
 XX  
 SQ Sequence 25 AA;

Query Match 100.0%; Score 55; DB 2; Length 25;  
 Best Local Similarity 100.0%; Pred. No. 0.021;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
 |||||  
 Db 14 FLHLLIAEIH 23

RESULT 11  
 AAR27979  
 ID AAR27979 standard; protein; 25 AA.

XX  
 AC AAR27979;

XX  
 DT 25-MAR-2003 (revised)  
 DT 26-NOV-1992 (first entry)

XX  
 DE (D-Trp12) hHCF (10-34) analogue.

XX humoral hypercalcaemic factor; hypercalcaemia; osteoporosis;  
 KW hyperparathyroidism; tumour overproduction; assay; hypercalcaemic crisis;  
 KW renal failure; hypertension; inflammation; allergy;  
 KW hyperactive lymphocytes.

XX  
 OS Synthetic.

XX  
 FH Key Location/Qualifiers  
 FT Modified-site 3  
 FT /note= "D-form"

XX  
 PN US5114843-A.

XX  
 PD 19-MAY-1992.

XX  
 PF 25-FEB-1991; 91US-00652340.

XX  
 PR 09-MAY-1988; 88US-00191513.

XX  
 PR 21-APR-1989; 89US-00341530.

XX  
 PA (MERI ) MERCK & CO INC.

XX  
 PI Rosenblatt M, McKee RL, Caulfield MP, Nutt RF;

XX  
 XX WPI; 1992-192175/23.

XX Peptide analogues of humoral hypercalcaemia factor - useful for treating  
 PT hypercalcaemia or osteoporosis, hyperparathyroidism or disease associated  
 PT with tumour over prodn. of hHCF.

XX  
 PS Claim 2; Col 8; 5pp; English.

XX This sequence represents one of several novel peptide analogues of  
 CC humoral hypercalcaemic factor (hHCF), as found in the disclosure. The  
 CC peptides are antagonists of hHCF, and may be used to treat osteoporosis,  
 CC hypercalcaemia, hyperparathyroidism, eg. expressed as a hypercalcaemic  
 CC crisis, renal failure, or hypertension, and disease states produced by a  
 CC tumour or other cell overproducing a peptide hormone-like molecule eg.  
 CC the hHCF of malignancy. They may also be used to treat immune diseases  
 CC involving inflammation, an allergic response or hyperactive lymphocytes.  
 CC A further use may be in an assay of natural hHCF levels. The peptides  
 CC have high binding affinity for their receptors, while not stimulating the  
 CC production of second messenger molecules with concurrent physiological  
 CC response. NOTE: In the specification Ile14 is quoted as being substituted  
 CC by other amino acids, however Ile occurs only at position 15 in the full

CC sequence disclosed for hHCF. (Updated on 25-MAR-2003 to correct PF  
 CC field.)  
 XX  
 SQ Sequence 25 AA;

Query Match 100.0%; Score 55; DB 2; Length 25;  
 Best Local Similarity 100.0%; Pred. No. 0.021;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
 |||||  
 Db 14 FLHLLIAEIH 23

RESULT 12  
 AAR84305

ID AAR84305 standard; peptide; 26 AA.

XX  
 AC AAR84305;

XX  
 DT 29-FEB-1996 (first entry)

XX  
 DE Parathyroid hormone related protein antagonistic peptide.

XX  
 KW Parathyroid hormone related protein; antagonist; PTH; osteoporosis;  
 KW calcium; hypercalcaemia.

XX  
 OS Homo sapiens.

XX  
 FH Key Location/Qualifiers

FT Misc-difference 5  
 FT /note= "D form residue"

XX  
 PN JP07165790-A.

XX  
 PD 27-JUN-1995.

XX  
 PF 30-SEP-1993; 93JP-00268311.

XX  
 PR 30-SEP-1993; 93JP-00268311.

XX  
 PA (TOFU ) TONEN CORP.

XX  
 XX WPI; 1995-261289/34.

XX New polypeptide(s) with antagonist activity towards parathyroid hormone  
 PT related protein - useful for treatment of calcium metabolism  
 PT abnormalities such as hypercalcaemia and osteoporosis.

XX  
 PS Claim 3; Page 2; 5pp; Japanese.

XX  
 CC AAR84303-R84305 are polypeptides which are antagonistic to parathyroid  
 CC hormone related protein (PTHrP). The peptides may be used in the  
 CC treatment of diseases such as hypercalcaemia and osteoporosis which are  
 CC caused by abnormalities in calcium metabolism brought about by the action  
 CC of PTHrP. The peptides are more effective and have higher antagonistic  
 CC activity than conventional PTHrP antagonists

XX  
 SQ Sequence 26 AA;

Query Match 100.0%; Score 55; DB 2; Length 26;  
 Best Local Similarity 100.0%; Pred. No. 0.022;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
 |||||  
 Db 16 FLHLLIAEIH 25

RESULT 13  
 AAR21497

ID AAR21497 standard; protein; 27 AA.

XX

AC AAR21497;  
XX  
XX  
DT 05-JUN-1992 (first entry)  
XX  
XX  
DE Desamino[Leu11, D-Trp, Lys13 (epsilon amino-(N,N-diisobutyl or 3-phenyl  
DE propanoyl))] HCF (8-34)NH2.  
XX  
XX  
KW Humoral hypercalcaemic factor (HCF); antagonist; tumours; hypercalcaemia;  
KW osteoporosis; hyperparathyroidism.  
XX  
XX  
OS Synthetic.  
XX  
XX  
FH Key Location/Qualifiers  
FH Misc-difference 5  
FT /note= "D-Trp"  
FT Modified-site 6  
FT /label= OTHER  
FT /note= "OTHER= epsilon amino-N,N-diisobutyl or 3-phenyl  
FT propanoyl."  
XX  
XX  
PN US5087562-A.  
XX  
PD 11-FEB-1992.  
XX  
XX  
PF 25-APR-1990; 90US-00514633.  
XX  
XX  
PR 25-APR-1990; 90US-00514633.  
XX  
XX  
PA (MERI ) MERCK & CO INC.  
XX  
XX  
PI Rosenblatt M, Roubini E, Chorev M, Nutt RF;  
XX WPI; 1992-072190/09.  
XX  
XX  
PT New di:isobutyl or phenyl:propanoyl modified HCF antagonist - useful in  
PT treatment and diagnosis of e.g. tumours, hypercalcaemia, osteoporosis and  
PT hyperparathyroidism.  
XX  
XX  
PS Disclosure; Page 1; 6pp; English.  
XX  
XX  
CC The peptide was synthesised by a solid phase method using a 4-methyl-  
CC benzhydrylamine.HCl resin. Lys13 is modified in the epsilon amino gp. by  
CC N,N-diisobutyl or 3-phenyl:propanoyl. The substn. of the epsilon-NH2 of  
CC Lys13 was carried out by incorporation of N-alpha-Boc-Lys- (epsilon-Fmoc)-  
CC OH in position 13 and epsilon-amino Fmoc deprotonation and modification  
CC of the free epsilon-NH2 in Lys13. The peptide was cleaved from the resin,  
CC extracted and purified. Note that the peptide is desamino i.e. there is  
CC no amino gp. on the N-terminus. The peptides have high binding affinity  
CC for HCF cell surface receptors while not stimulating the prodn. of second  
CC messenger molecules. The peptide can be used for treating e.g.  
CC osteoporosis, hypercalcaemia, hyperparathyroidism and related aspects  
CC i.e. hypercalcaemic crisis, renal failure and hypertension tumours. The  
CC peptide may be used to treat immune diseases in which the diseased state  
CC is manifested by inflammation, an allergic response or hyperactive  
CC lymphocytes. Fragments of the peptide contg. the receptor binding site  
CC can be used as inhibitors or blocking agents. The peptides can also be  
CC used as probes to detect and facilitate purification of parathyroid  
CC hormone receptors, and in vitro to measure the concn. of naturally  
CC occurring HCF. See also AAR21488-97 and AAR21478-87 (see US5087561)  
XX  
SQ Sequence 27 AA;  
  
Query Match 100.0%; Score 55; DB 2; Length 27;  
Best Local Similarity 100.0%; Pred. NO. 0.023;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 FLHLLIAEIH 10  
Db 16 FLHLLIAEIH 25  
  
RESULT 14  
AAR21494

AAR21494 standard; protein; 27 AA.  
AAR21494;  
05-JUN-1992 (first entry).  
Desamino [D-Trp, Lys13 (epsilon amino-(N,N-diisobutyl or 3-phenyl  
propanoyl))] HCF (8-34)NH2.  
Humoral hypercalcaemic factor (HCF); antagonist; tumours; hypercalcaemia;  
osteoporosis; hyperparathyroidism.  
Synthetic.  
Key Location/Qualifiers  
Misc-difference 5  
Modified-site 6  
/note= "D-Trp"  
/label= OTHER  
/note= "OTHER= epsilon amino-N,N-diisobutyl or 3-phenyl  
propanoyl."  
US5087562-A.  
11-FEB-1992.  
25-APR-1990; 90US-00514633.  
25-APR-1990; 90US-00514633.  
(MERI ) MERCK & CO INC.  
Rosenblatt M, Roubini E, Chorev M, Nutt RF;  
WPI; 1992-072190/09.  
New di:isobutyl or phenyl:propanoyl modified HCF antagonist - useful in  
treatment and diagnosis of e.g. tumours, hypercalcaemia, osteoporosis and  
hyperparathyroidism.  
Disclosure; Page 1; 6pp; English.  
The peptide was synthesised by a solid phase method using a 4-methyl-  
benzhydrylamine.HCl resin. The substn. of the epsilon-NH2 of Lys13 was  
carried out by incorporation of N-alpha-Boc-Lys- (epsilon-Fmoc)-OH in  
position 13 and epsilon-amino Fmoc deprotonation and modification of the  
free epsilon-NH2 in Lys13. The peptide was cleaved from the resin,  
extracted and purified. Note that the peptide is desamino i.e. there is  
no amino gp. on the N-terminus. The peptides have high binding affinity  
for HCF cell surface receptors while not stimulating the prodn. of second  
messenger molecules. The peptide can be used for treating e.g.  
osteoporosis, hypercalcaemia, hyperparathyroidism and related aspects  
i.e. hypercalcaemic crisis, renal failure and hypertension tumours. The  
peptide may be used to treat immune diseases in which the diseased state  
is manifested by inflammation, an allergic response or hyperactive  
lymphocytes. Fragments of the peptide contg. the receptor binding site  
can be used as inhibitors or blocking agents. The peptides can also be  
used as probes to detect and facilitate purification of parathyroid  
hormone receptors, and in vitro to measure the concn. of naturally  
occurring HCF. See also AAR21488-97 and AAR21478-87 (see US5087561)  
Sequence 27 AA;  
  
Query Match 100.0%; Score 55; DB 2; Length 27;  
Best Local Similarity 100.0%; Pred. NO. 0.023;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 FLHLLIAEIH 10  
Db 16 FLHLLIAEIH 25  
  
RESULT 15

Search completed: December 2, 2005, 23:27:50  
Job time : 28.6404 secs

AAAR21493	standard; protein; 27 AA.
AAAR21493	
05-JUN-1992	(first entry)
Desamino[Asn10, Leu11, D-Trp, Lys13 (epsilon amino-(N,N-diisobutyl or 3-phenyl propanoyl)] hHCF (8-34)NH2.	
Humoral hypercalcaemic factor (HCF); antagonist; tumours; hypercalcaemia; osteoporosis; hyperparathyroidism.	
Synthetic.	
Key	Location/Qualifiers
Misc-difference 5	/note= "D-Trp"
Modified-site 6	/label= OTHER
	/note= "OTHER= epsilon amino-N,N-diisobutyl or 3-phenyl propanoyl."
US5087562-A.	
11-FEB-1992.	
25-APR-1990;	90US-00514633.
25-APR-1990;	90US-00514633.
(MERI ) MERCK & CO INC.	
Rosenblatt M, Roubini E, Chorev M, Nutt RF;	
WPI; 1992-072190/09.	
New diisobutyl or phenylpropanoyl modified HCF antagonist - useful in treatment and diagnosis of e.g. tumours, hypercalcaemia, osteoporosis and hyperparathyroidism.	
Disclosure; Page 1; 6pp; English.	
The peptide was synthesised by a solid phase method using a 4-methylbenzylamine.HCl resin. The substr. of the epsilon-NH2 of Lys13 was carried out by incorporation of N-alpha-Boc-Lys- (epsilon-NHoc)-OH in position 13 and epsilon-amino Fmoc deprotection and modification of the free epsilon-NH2 in Lys13. The peptide was cleaved from the resin, extracted and purified. Note that the peptide is desamino i.e. there is no amino gp. on the N-terminus. The peptides have high binding affinity for HCF cell surface receptors while not stimulating the prodn. of second messenger molecules. The peptide can be used for treating e.g. osteoporosis, hypercalcaemia, hyperparathyroidism and related aspects i.e. hypercalcaemic crisis, renal failure and hypertension tumours. The peptide may be used to treat immune diseases in which the diseased state is manifested by inflammation, an allergic response or hyperactive lymphocytes. Fragments of the peptide contg. the receptor binding site can be used as inhibitors or blocking agents. The peptides can also be used as probes to detect and facilitate purification of parathyroid hormone receptor, and in vitro to measure the concn. of naturally occurring HCF. See also AAR21488-97 and AAR21478-87 (see US5087561)	
Sequence 27 AA;	
Query Match	100.0%; Score 55; DB 2; Length 27;
Best Local Similarity	100.0%; Pred. No. 0.023;
Matches 10; Conservative	0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10  
16 FLHHLIAEIH 25  
db



GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: December 2, 2005, 23:04:13 ; Search time 4.38202 Seconds  
(without alignments)  
219.572 Million cell updates/sec

Title: US-10-691-125-3  
Perfect score: 55  
Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR 90:\*

1: pir1.\*

2: pir2.\*

3: pir3.\*

4: pir4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	55	100.0	175	JN0103	parathyroid hormon
2	55	100.0	177	A30012	parathyroid hormon
3	55	100.0	177	PTHU2L	parathyroid hormon
4	55	100.0	177	JC4201	parathyroid hormon
5	55	100.0	209	PTHU3L	parathyroid hormon
6	45	81.8	2244	T08212	RNA-directed RNA p
7	39	70.9	1631	SAZQK1	major mezozoite su
8	39	70.9	1639	S05603	probable major sur
9	39	70.9	1640	A24594	conserved hypothet
10	38	69.1	315	H87447	zona pellucida gly
11	38	69.1	426	S70396	fibronectin-bindin
12	38	69.1	540	G86790	probable membrane
13	38	69.1	635	S61175	probable DNA topoi
14	38	69.1	652	T03504	hypothetical prote
15	38	69.1	668	E89783	hypothetical prote
16	38	69.1	1299	T42989	hypothetical prote
17	37	67.3	221	A70831	hypothetical prote
18	37	67.3	460	D96813	hypothetical prote
19	37	67.3	551	D95111	adherence and viru
20	37	67.3	560	D97980	fibronectinbinding
21	37	67.3	759	S76989	sensory transducti
22	37	67.3	1370	T19188	hypothetical prote
23	36	65.5	172	AC2548	hypothetical prote
24	36	65.5	393	G71536	hypothetical prote
25	36	65.5	447	A33504	glutamate dehydrog
26	36	65.5	447	DEECEN	glutamate dehydrog
27	36	65.5	447	AP0710	NADP-specific glut
28	36	65.5	447	AE0483	glutamate dehydrog
29	36	65.5	447	C90937	NADP-specific glut

30 36 65.5 447 2 G85785 NADP-specific glut  
31 36 65.5 695 2 A87494 topoisomerase IV,  
32 36 65.5 699 2 AC3594 DNA topoisomerase  
33 36 65.5 712 2 AB2776 DNA gyrase subunit  
34 36 65.5 712 2 H97555 DNA gyrase chain b  
35 36 65.5 873 2 T12535 hypothetical prote  
36 36 65.5 1175 2 H83437 hypothetical prote  
37 36 65.5 1708 2 AE1866 WD-40 repeat prote  
38 35 63.6 100 2 D71632 hypothetical prote  
39 35 63.6 237 2 T50984 related to 26s pro  
40 35 63.6 281 2 H82326 MSHA biogenesis pr  
41 35 63.6 362 2 T05167 hypothetical prote  
42 35 63.6 651 2 S47282 mezozoite surface  
43 35 63.6 684 2 S29683 DNA gyrase B, novo  
44 35 63.6 956 2 H81654 conserved hypothet  
45 35 63.6 1025 2 E86355 hypothetical prote

## ALIGNMENTS

## RESULT 1

JN0103 parathyroid hormone-related peptide precursor - mouse

C;Species: Mus musculus (house mouse)

C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004

C;Accession: JN0103

R;Mangin, M.; Ikeda, K.; Broadus, A.E.

Gene 95, 195-202, 1990

A;Title: Structure of the mouse gene encoding parathyroid hormone-related peptide.

A;Reference number: JN0103; MUID:91065532; PMID:2249778

A;Accession: JN0103

A;Molecule type: DNA

A;Residues: 1-175 <MAN>

A;Cross-references: UNIPROT:P22858; UNIPARC:UPI00000299AE; GB:M60057; GB:M340398; NID:920

C;Comment: The normal role of the parathyroid hormone-related peptide is unknown.

C;Genetics:

A;Introns: 34/2; 173/2

C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology

F;1-24/Domain: signal sequence #status predicted <SIG>

F;25-36/Domain: propeptide #status predicted <PRO>

F;35-69/Domain: parathyroid hormone homology <PTH>

F;37-175/Product: parathyroid hormone-related peptide #status predicted <MAT>

Query Match 100.0%; Score 55; DB 1; Length 175;

Best Local Similarity 100.0%; Pred. No. 0.014; Mismatches 0; Gaps 0;

Matches 10; Conservative 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10

Db 59 FLHLLIAEIH 68

## RESULT 2

A30012

parathyroid hormone-like protein precursor - rat

C;Species: Rattus norvegicus (Norway rat)

C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004

C;Accession: A34723; A34944; A30012; A43416

R;Karaplis, A.C.; Yasuda, T.; Hendy, G.N.; Goltzman, D.; Banville, D.

Mol. Endocrinol. 4, 441-446, 1990

A;Title: Gene-encoding parathyroid hormone-like peptide: nucleotide sequence of the rat

A;Reference number: A34723; MUID:90258937; PMID:2342478

A;Accession: A34723

A;Molecule type: DNA

A;Residues: 1-177 <KAR>

A;Cross-references: UNIPROT:P13085; UNIPARC:UPI0000132905; GB:M34112; NID:9206229; PIDN:

A;Note: the authors translated the codon TAC for residue 114 as Thr

R;Yasuda, T.; Banville, D.; Rabbani, S.A.; Hendy, G.N.; Goltzman, D.

Mol. Endocrinol. 3, 518-525, 1989

A;Title: Rat parathyroid hormone-like peptide: comparison with the human homologue and

A;Reference number: A34944; MUID:89313794; PMID:2747658

A;Accession: A34944

A;Molecule type: mRNA  
A;Residues: 1-177 <YAS>  
A;Cross-references: UNIPARC:UPI0000132905; GB:M31603; NID:G206486; PIDN:AAA41980.1; PID:R;Thiede, M.A.; Rodan, G.A.  
Science 242, 278-280, 1988  
A;Title: Expression of a calcium-mobilizing parathyroid hormone-like peptide in lactating  
A;Reference number: A30012; MUID:89019361; PMID:3175653  
A;Accession: A30012  
A;Molecule type: mRNA  
A;Residues: 1-177 <THI>  
A;Cross-references: UNIPARC:UPI0000132905; EMBL:M21967; NID:G206488; PIDN:AAA41981.1; PID:R;Soifer, N.E.; Dee, K.E.; Insogna, K.L.; Burtis, W.J.; Matovicik, L.M.; Wu, T.L.; Milsted  
J. Biol. Chem. 267, 18236-18243, 1992  
A;Title: Parathyroid hormone-related protein. Evidence for secretion of a novel mid-regional  
A;Reference number: A43416; MUID:92288199; PMID:1517251  
A;Accession: A43416  
A;Molecule type: protein  
A;Residues: 'X', 75-84, 'S', 86-90, 'X', 92-93, 'X', 95-101, 'X', 103-105, 'X', 107 <SOI>  
A;Cross-references: UNIPARC:UPI00000E5C38  
A;Experimental source: RIN-141 cells  
A;Note: sequence extracted from NCB1 backbone (NCBIP:112971)  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
F;1-36/Domain: signal sequence #status predicted <SIG>  
F;35-69/Domain: parathyroid hormone homology <PTH>  
F;37-177/Product: parathyroid hormone-like protein #status predicted <WAT>  
F;73-74/Cleavage site: Arg-Ala (unidentified proteinase) #status experimental

Query Match 100.0%; Score 55; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.014;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
Db 59 FLHLLIAEIH 68

RESULT 3  
PTHU2L  
Parathyroid hormone-related protein precursor, splice form 2 - human  
N;Alternate names: parathyroid hormone-like protein  
N;Contains: parathyroid hormone-related protein, splice form 1; parathyroid hormone-related  
C;Species: Homo sapiens (man)  
C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text change 09-Jul-2004  
C;Accession: A33360; B33360; A28120; A94295; B94295; A36166; A91606; A28034; A36512; JSC  
E;Yaouda, T.; Barville, D.; Hendy, G.N.; Goltzman, D.  
J. Biol. Chem. 264, 7720-7725, 1989  
A;Title: Characterization of the human parathyroid hormone-like peptide gene. Functional  
A;Reference number: A33360; MUID:89214227; PMID:2708388  
A;Accession: A33360  
A;Molecule type: DNA  
A;Residues: 1-175 <YAS>  
A;Cross-references: UNIPROT:P12272; UNIPARC:UPI000002B1CC; GB:J04710; NID:g19  
A;Accession: B33360  
A;Molecule type: DNA  
A;Residues: 176-177 <YAS>  
A;Cross-references: UNIPARC:UPI00001734EA; GB:J04710  
R;Mangin, M.; Webb, A.C.; Dreyer, B.E.; Fosillico, J.T.; Ikeda, K.; Weir, E.C.; Stewart,  
Proc. Natl. Acad. Sci. U.S.A. 85, 597-601, 1988  
A;Title: Identification of a cDNA encoding a parathyroid hormone-like peptide from a human  
A;Reference number: A28120; MUID:88124888; PMID:2829195  
A;Accession: A28120  
A;Molecule type: mRNA  
A;Residues: 1-177 <MAN>  
A;Cross-references: UNIPARC:UPI0000047E25; EMBL:J03580  
R;Suva, L.J.; Winslow, G.A.; Wettenhall, R.E.H.; Hammonds, R.G.; Moseley, J.M.; Diefenbach  
Science 237, 893-896, 1987  
A;Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; cDNA  
A;Reference number: A94295; MUID:87292119; PMID:3616618  
A;Accession: A94295  
A;Molecule type: mRNA  
A;Residues: 1-177 <SUVI>  
A;Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:g190725; PIDN:AAA60221.1; PID:R;Soifer, N.E.; Dee, K.E.; Insogna, K.L.; Burtis, W.J.; Matovicik, L.M.; Wu, T.L.; Milsted  
J. Biol. Chem. 267, 18236-18243, 1992  
A;Title: Parathyroid hormone-related protein. Evidence for secretion of a novel mid-regional  
A;Reference number: A43416; MUID:92288199; PMID:1517251  
A;Accession: A43416

A;Molecule type: protein  
A;Residues: 37-70, 'X', 72-84, 'X', 86-103-115 <SUUV2>  
A;Cross-references: UNIPARC:UPI00001734EB; UNIPARC:UPI00001734EC  
R;Thiede, M.A.; Screwler, G.J.; Nissenson, R.A.; Rosenblatt, M.; Rodan, G.A.  
Proc. Natl. Acad. Sci. U.S.A. 85, 4605-4609, 1988  
A;Title: Human renal carcinoma expresses two messages encoding a parathyroid hormone-like  
A;Reference number: A36166; MUID:88262996; PMID:3290897  
A;Accession: A36166  
A;Molecule type: mRNA  
A;Residues: 1-175 <THI>  
A;Cross-references: UNIPARC:UPI000002B1CC; GB:J03802; NID:g190717; PIDN:AAA60218.1; PID:R;Suva, L.J.; Mather, K.A.; Gillespie, M.T.; Webb, G.C.; Ng, K.W.; Winslow, G.A.; Wood, V.  
Gene 77, 95-105, 1989  
A;Title: Structure of the 5' flanking region of the gene encoding human parathyroid-hormone  
A;Reference number: A91606; MUID:89306685; PMID:2744490  
A;Accession: A91606  
A;Molecule type: DNA  
A;Residues: 1-34 <SUUV3>  
A;Cross-references: UNIPARC:UPI000016AF38; EMBL:X14304; NID:g35776; PIDN:CAA32480.1; PID:R;Moseley, J.M.; Kubota, M.; Diefenbach-Jagger, H.; Wettenhall, R.E.H.; Kemp, B.E.; Suva,  
Proc. Natl. Acad. Sci. U.S.A. 84, 5048-5052, 1987  
A;Title: Parathyroid hormone-related protein purified from a human lung cancer cell line  
A;Reference number: A28034; MUID:87260926; PMID:2885845  
A;Accession: A28034  
A;Molecule type: protein  
A;Residues: 37-52 <WQS>  
A;Cross-references: UNIPARC:UPI00001734ED  
C;Comment: This hormone stimulates an increase of cyclic AMP levels in osteoblasts and causes  
a role in fetal calcium metabolism.  
C;Genetics:  
A;Gene: GDB:PTHLH  
A;Cross-references: GDB:120323; OMIM:168470  
A;Map position: 12p12.1-12p11.2  
A;Introns: 34/2  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C;Keywords: alternative splicing; hormone; humoral hypercalcemia  
F;1-24/Domain: signal sequence #status predicted <SIG>  
F;25-36/Domain: propeptide #status predicted <PRO>  
F;35-69/Domain: parathyroid hormone homology <PTH>  
F;37-177/Product: parathyroid hormone-related peptide, splice form 1 #status predicted <H>  
F;37-175/Product: parathyroid hormone-related peptide, splice form 1 #status predicted <H>

Query Match 100.0%; Score 55; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.014;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
Db 59 FLHLLIAEIH 68

RESULT 4  
JC4201  
parathyroid hormone-related protein precursor - dog  
C;Species: Canis lupus familiaris (dog)  
C;Date: 10-Sep-1995 #sequence revision 27-Oct-1995 #text\_change 09-Jul-2004  
C;Accession: JC4201  
R;Rosol, T.J.; Steinhilber, C.L.; McCauley, L.K.; Groene, A.; DeWille, J.W.; Capen, C.C.  
Gene 160, 241-243, 1995  
A;Title: Sequences of the cDNAs encoding canine parathyroid hormone-related protein and  
A;Reference number: JC4201; MUID:95369696; PMID:7642102  
A;Accession: JC4201  
A;Molecule type: mRNA  
A;Residues: 1-177 <ROS>  
A;Cross-references: UNIPROT:P52211; UNIPARC:UPI0000132901; GB:U15593; NID:g558476; PIDN:R;Rosol, T.J.; Steinhilber, C.L.; McCauley, L.K.; Groene, A.; DeWille, J.W.; Capen, C.C.  
Science 237, 893-896, 1987  
A;Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; cDNA  
A;Reference number: A94295; MUID:87292119; PMID:3616618  
A;Accession: A94295  
A;Molecule type: mRNA  
A;Residues: 1-177 <SUUV1>  
A;Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:g190725; PIDN:AAA60221.1; PID:R;Soifer, N.E.; Dee, K.E.; Insogna, K.L.; Burtis, W.J.; Matovicik, L.M.; Wu, T.L.; Milsted  
J. Biol. Chem. 267, 18236-18243, 1992  
A;Title: Parathyroid hormone-related protein. Evidence for secretion of a novel mid-regional  
A;Reference number: A43416; MUID:92288199; PMID:1517251  
A;Accession: A43416

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
 |||||  
 Db 59 FLHHLIAEIH 68  
 |||||

RESULT 5  
 PTHU3L  
 parathyroid hormone-related protein precursor, splice form 3 - human  
 N:Alternate names: parathyroid hormone-like protein  
 C:Species: Homo sapiens (man)  
 C>Date: 31-Mar-1993 #sequence\_revision 31-Mar-1993 #text\_change 09-Jul-2004  
 C:Accession: C33360; A32756  
 R:Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.  
 J. Biol. Chem. 264, 7720-7725, 1989  
 A:Title: Characterization of the human parathyroid hormone-like peptide gene. Functional  
 A:Reference number: A33360; MUID:89214227; PMID:2708388  
 A:Accession: C33360  
 A:Molecule type: DNA  
 A:Residues: 1-209 <YAS>  
 A:Cross-references: UNIPROT:P12272; UNIPROT:Q15251; UNIPARC:UPI000002B1CD; GB:M24350; GE  
 R:Marglin, M.; Ikeda, K.; Dreyer, B.E.; Broadus, A.E.  
 Proc. Natl. Acad. Sci. U.S.A. 86, 2408-2412, 1989  
 A:Title: Isolation and characterization of the human parathyroid hormone-like peptide ge  
 A:Reference number: A32756; MUID:89184636; PMID:2928340  
 A:Accession: A32756  
 A:Molecule type: DNA  
 A:Residues: 178-209 <MAN>  
 A:Cross-references: UNIPARC:UPI0000035191; GB:M34071; NID:g190715; PIDN:AAA60217.1; PID:  
 C:Comment: This hormone causes humoral hypercalcemia of malignancy when secreted by cer  
 C:Genetics:  
 A:Gene: GDB:PTHLH  
 A:Cross-references: GDB:120323; OMIM:168470  
 A:Map position: 12p12.1-12p11.2  
 A:Introns: 34/2; 175/2  
 C:Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
 C:Keywords: alternative splicing; hormone; humoral hypercalcemia  
 F:1-24/Domain: signal sequence #status predicted <SIG>  
 F:25-36/Domain: propeptide #status predicted <PRO>  
 F:35-69/Domain: parathyroid hormone homology <PTH>  
 F:37-209/Product: parathyroid hormone-related protein, splice form 3 #status predicted <

Query Match 100.0%; Score 55; DB 1; Length 209;  
 Best Local Similarity 100.0%; Pred. No. 0.017; Mismatches 0; Indels 0; Gaps 0;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
 |||||  
 Db 59 FLHHLIAEIH 68  
 |||||

RESULT 6  
 T08212  
 RNA-directed RNA polymerase (EC 2.7.7.48) - Hendra virus  
 C:Species: Hendra virus  
 C>Date: 11-Jun-1993 #sequence\_revision 11-Jun-1993 #text\_change 09-Jul-2004  
 C:Accession: T08212  
 R:Yu, M.; Hansson, E.; Langedijk, J.P.M.; Eaton, B.T.; Wang, L.F.  
 Virology 251, 227-233, 1998  
 A:Title: The attachment protein of hendra virus has high structural similarity but limit  
 A:Reference number: Z16405; MUID:99058172; PMID:9837786  
 A:Accession: T08212  
 A:Status: translated from GB/EMBL/DBJ  
 A:Molecule type: genomic RNA  
 A:Residues: 1-2244 <YUM>  
 A:Cross-references: UNIPROT:O89344; UNIPARC:UPI00000F0A47; EMBL:AF017149; NID:g3273489;  
 C:Genetics:  
 A:Gene: L  
 C:Superfamily: parainfluenza virus RNA-directed RNA polymerase  
 C:Keywords: nucleotidyltransferase

Query Match 81.8%; Score 45; DB 2; Length 2244;

Best Local Similarity 80.0%; Pred. No. 12; Mismatches 2; Indels 0; Gaps 0;  
 Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
 |||||  
 Db 311 FLHHLIAEIH 320  
 |||||

RESULT 7  
 SAZOK1  
 major merozoite surface antigen precursor - malaria parasite (Plasmodium falciparum) (st  
 C:Species: Plasmodium falciparum  
 C>Date: 30-Sep-1987 #sequence\_revision 30-Sep-1987 #text\_change 31-Dec-2004  
 C:Accession: A25120  
 R:Mackay, M.; Goman, M.; Bone, N.; Hyde, J.E.; Scaife, J.; Certa, U.; Stunnenberg, H.;  
 EMBO J. 4, 3823-3829, 1985  
 A:Title: Polymorphism of the precursor for the major surface antigens of Plasmodium falc  
 A:Reference number: A91030; MUID:86136024; PMID:3004972  
 A:Accession: A25120  
 A:Molecule type: DNA  
 A:Residues: 1-1631 <MAC>  
 A:Cross-references: UNIPARC:UPI0000174695  
 C:Comment: The merozoite stages of different strains have strain-specific surface antige  
 C:Superfamily: P. falciparum has three stages: sporozoite, merozoite, and gametocyte. The me  
 C:Keywords: glycoprotein; merozoite; surface antigen; tandem repeat; transmembrane prote  
 F:1-19/Domain: signal sequence #status predicted <SIG>  
 F:20-1631/Product: major merozoite surface antigen #status predicted <MAT>  
 F:67-84/Region: 3-residue repeats (S-G-T/P)  
 F:1614-1631/Domain: membrane anchor #status predicted <MBN>  
 F:97,259,755,759,835,911,955,1049,1156,1165,1436,1563/Binding site: carbohydrate (Asn) (

Query Match 70.9%; Score 39; DB 1; Length 1631;  
 Best Local Similarity 87.5%; Pred. No. 97; Mismatches 1; Indels 0; Gaps 0;  
 Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 LHLHIAEI 9  
 |||||  
 Db 1141 LHLHIAEI 1148  
 |||||

RESULT 8  
 S05603  
 major merozoite surface antigen precursor - malaria parasite (Plasmodium falciparum) (st  
 N:Alternate names: gp195 surface antigen  
 C:Species: Plasmodium falciparum  
 C>Date: 12-Feb-1993 #sequence\_revision 12-Feb-1993 #text\_change 31-Dec-2004  
 C:Accession: S05603; S04850  
 R:Myler, P.J.  
 submitted to the EMBL Data Library, April 1989  
 A:Reference number: S05603  
 A:Accession: S05603  
 A:Molecule type: mRNA  
 A:Residues: 1-1639 <MYL>  
 A:Cross-references: UNIPROT:P04933; UNIPARC:UPI0000000672; EMBL:X15063; NID:g9896; PIDN:  
 R:Myler, P.J.  
 Nucleic Acids Res. 17, 5401, 1989  
 A:Title: Nucleotide and deduced amino acid sequence of the gp195 (MSA-1) gene from Plas  
 A:Reference number: S04850; MUID:89345116; PMID:2668887  
 A:Accession: S04850  
 A:Molecule type: mRNA  
 A:Residues: 1504-1639 <MYL2>  
 A:Cross-references: UNIPARC:UPI0000177F84; EMBL:X15063  
 C:Superfamily: G surface protein  
 C:Keywords: glycoprotein; merozoite; surface antigen  
 F:1-19/Domain: signal sequence #status predicted <Sig>  
 F:20-1639/Product: major merozoite surface antigen #status predicted <MAT>

Query Match 70.9%; Score 39; DB 2; Length 1639;  
 Best Local Similarity 87.5%; Pred. No. 98; Mismatches 1; Indels 0; Gaps 0;  
 Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 LHLHIAEI 9

Db 1150 LHLHIAEL 1157  
|||||:

## RESULT 9

A24594  
probable major surface antigen (83K, 19K, 42K) precursor - malaria parasite (Plasmodium  
C;Species: Plasmodium falciparum  
C;Date: 29-Aug-1987 #sequence\_revision 29-Aug-1987 #text\_change 31-Dec-2004  
C;Accession: A24594  
R;Holder, A.A.; Lockyer, M.J.; Odink, K.G.; Sandhu, J.S.; Riveros-Moreno, V.; Nicholls,  
Nature 317, 270-273, 1985  
A;Title: Primary structure of the precursor to the three major surface antigens of Plas  
A;Reference number: A24594; MUID:86014355; PMID:2995820  
A;Accession: A24594  
A;Molecule type: DNA  
A;Residues: 1-1640 <HOL>  
A;Cross-references: UNIPROT:P04933; UNIPARC:UPI0000177F8A  
C;Superfamily: G surface protein  
C;Keywords: surface antigen

Query Match 70.9%; Score 39; DB 2; Length 1640;  
Best Local Similarity 87.5%; Pred. No. 98;  
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 LHLHIAEI 9

Db 1150 LHLHIAEL 1157  
|||||:

## RESULT 10

H87447  
conserved hypothetical protein CC1501 [imported] - Caulobacter crescentus  
C;Species: Caulobacter crescentus  
C;Date: 20-Apr-2001 #sequence\_revision 20-Apr-2001 #text\_change 09-Jul-2004  
C;Accession: H87447  
R;Niernman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.  
B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon  
n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.  
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001  
A;Title: Complete Genome Sequence of Caulobacter crescentus.  
A;Reference number: A87249; MUID:21173698; PMID:11259647  
A;Accession: H87447  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-315 <STO>  
A;Cross-references: UNIPROT:Q9A7W8; UNIPARC:UPI00000C7439; GB:AE005673; NID:gl3422998; F  
C;Genetics:  
A;Gene: CC1501

Query Match 69.1%; Score 38; DB 2; Length 315;  
Best Local Similarity 60.0%; Pred. No. 26;  
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 1 FLHLHIAEIH 10  
|||:|::|

Db 129 FLHDVIADLH 138

## RESULT 11

S70396  
zona pellucida glycoprotein C - dog  
C;Species: Canis lupus familiaris (dog)  
C;Date: 28-Oct-1996 #sequence\_revision 27-Feb-1997 #text\_change 09-Jul-2004  
C;Accession: S70396  
R;Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hau, K.T.; Yurewicz, E.C.; Sacco, A.G.  
DNA Seq. 4, 361-393, 1994  
A;Title: Cloning and characterization of zona pellucida genes and cDNAs from a variety c  
A;Reference number: S70396; MUID:95143578; PMID:7841460  
A;Accession: S70396  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 1-426 <HAR>

A;Cross-references: UNIPROT:P48831; UNIPARC:UPI000013C462; EMBL:U05780; NID:9458276; PID  
C;Superfamily: sperm-binding glycoprotein 2F3; ZP domain homology  
F;43-299/Domain: ZP domain homology <ZPH>

Query Match 69.1%; Score 38; DB 2; Length 426;  
Best Local Similarity 60.0%; Pred. No. 36;  
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 FLHLHIAEIH 10

Db 226 FLHKKIVDFH 235  
|||||:

## RESULT 12

G86790  
fibronectin-binding protein [imported] - Lactococcus lactis subsp. lactis (strain IL1403)  
C;Species: Lactococcus lactis subsp. lactis  
C;Date: 23-Mar-2001 #sequence\_revision 23-Mar-2001 #text\_change 09-Jul-2004  
C;Accession: G86790  
R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Ehrlic  
Genome Res. 11, 731-753, 2001  
A;Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis ssp  
A;Reference number: A86625; MUID:21235186; PMID:11337471  
A;Accession: G86790  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-540 <STO>  
A;Cross-references: UNIPROT:Q9CFY4; UNIPARC:UPI000000C6A10; GB:AE005176; PID:gl2724308; J  
A;Experimental source: strain IL1403  
C;Genetics:  
A;Gene: yngB

Query Match 69.1%; Score 38; DB 2; Length 540;  
Best Local Similarity 66.7%; Pred. No. 46;  
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 FLHLHIAEI 9

Db 7 FLHHTMAEL 15  
|||||:

## RESULT 13

S61175  
probable membrane protein YDR380W - yeast (Saccharomyces cerevisiae)  
N;Alternate names: Hypothetical protein D9481.3  
C;Species: Saccharomyces cerevisiae  
C;Date: 23-Feb-1996 #sequence\_revision 01-Mar-1996 #text\_change 05-Oct-2004  
C;Accession: S61175  
R;Ding, H.  
submitted to the EMBL Data Library, June 1995  
A;Description: The sequence of S. cerevisiae cosmid 9481.  
A;Reference number: S61159  
A;Accession: S61175  
A;Molecule type: DNA  
A;Residues: 1-635 <DIN>  
A;Cross-references: UNIPROT:Q06408; UNIPARC:UPI000006A539; EMBL:U28373; NID:9849184; PID  
A;Experimental source: strain S288C (AB972)  
C;Genetics:  
A;Gene: SGD:ARO10; MIPS:YDR380W  
A;Cross-references: SGD:S0002788  
A;Map position: 4R  
C;Superfamily: pyruvate decarboxylase/indolepyruvate decarboxylase; thiamin pyrophosphat  
C;Keywords: transmembrane protein  
F;467-483/Domain: transmembrane #status predicted <TM>

Query Match 69.1%; Score 38; DB 2; Length 635;

Best Local Similarity 55.6%; Pred. No. 55;  
Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 2 LHLHIAEIH 10

Db 143 LHLVLPQLH 151  
|||||:

```
RESULT 14
T03504
Probable DNA topoisomerase (ATP-hydrolyzing) (EC 5.99.1.3) chain B - Rhodobacter capsula
N;Alternate names: DNA gyrase chain b
C;Species: Rhodobacter capsulatus
C;Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 05-Oct-2004
C;Accession: T03504
R;Vlcek, C.; Paces, V.; Maltsev, N.; Paces, J.; Haselkorn, R.; Fonstein, M.
Proc Natl. Acad. Sci. U.S.A. 94, 9384-9388, 1997
A;Title: Sequence of a 189-kb segment of the chromosome of Rhodobacter capsulatus SB1003
A;Reference number: Z14955; MUID:97404404; PMID:9256491
A;Accession: T03504
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-652 <VLC>
A;Cross-references: UNIPROT:O68071; UNIPARC:UPI00000BE885; EMBL:AF010496; NID:G3128256;
C;Genetics:
A;Map position: 1
C;Superfamily: Type II topoisomerase, subunit B
C;Keywords: isomerase

Query Match          69.1%; Score 38; DB 2; Length 652;
Best Local Similarity 75.0%; Pred. No. 56;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 2 LHHLIAEI 9
DB 44 LHHMVAEI 51

RESULT 15
E89783
Hypothetical protein SA0202 [imported] - Staphylococcus aureus (strain N315)
C;Species: Staphylococcus aureus
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
C;Accession: E89783
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; Oguc
ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, K.;
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
A;Title: Whole genome sequencing of methicillin-resistant Staphylococcus aureus.
A;Reference number: A89758; MUID:21311952; PMID:11418146
A;Accession: E89783
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-668 <KUR>
A;Cross-references: UNIPROT:Q99X13; UNIPARC:UPI00000CAC13; GB:BA0000018; PID:gi3700125; E
A;Experimental source: strain N315
C;Genetics:
A;Gene: SA0202

Query Match          69.1%; Score 38; DB 2; Length 668;
Best Local Similarity 60.0%; Pred. No. 57;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10
DB 290 YLHHLIQAMH 299

Search completed: December 2, 2005, 23:29:18
Job time : 8.38202 secs
```

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GenCore version 5.1.6  
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 22:38:37 ; Search time 27.809 Seconds  
(without alignments)  
253.705 Million cell updates/sec

Title: US-10-691-125-3  
Perfect score: 55  
Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : UniProt 05.80.\*  
1: uniprot\_sprot.\*  
2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	55	100.0	94	Q95K22_FELCA	Q95k22 felis silve
2	55	100.0	121	1 PTHR_SHEEP	Q9gk30 ovis aries
3	55	100.0	137	1 PTHR_HORSE	Q9gmb7 equus caball
4	55	100.0	170	2 Q7YR12_CEREL	Q7yri2 cervus elap
5	55	100.0	175	1 PTHR_MOUSE	P22858 mus musculu
6	55	100.0	175	2 Q33XY9_HUMAN	Q33xy9 homo sapien
7	55	100.0	175	2 Q811S6_MOUSE	Q811s6 mus musculu
8	55	100.0	175	2 Q224X4_MOUSE	Q224x4 mus musculu
9	55	100.0	175	2 Q540C1_MOUSE	Q540c1 mus musculu
10	55	100.0	177	1 PTHR_BOVIN	P58073 bos taurus
11	55	100.0	177	1 PTHR_CANFA	P52211 canis famil
12	55	100.0	177	1 PTHR_HUMAN	P12272 homo sapien
13	55	100.0	177	1 PTHR_RABIT	Q3glc7 oryctolagus
14	55	100.0	177	1 PTHR_RAT	P33085 rattus norv
15	55	100.0	177	2 Q6FH74_HUMAN	Q6fh74 homo sapien
16	55	100.0	177	2 Q659U2_PROVI	Q659u2 phoca vitul
17	55	100.0	177	2 Q659U3_HALGR	Q659u3 halichoerus
18	55	100.0	177	2 Q866H2_PIG	Q866h2 sus scrofa
19	55	100.0	202	2 Q8BD23_RABIT	Q8bd23 oryctolagus
20	45	81.8	2244	2 Q89344_9PARA	Q89344 hendra viru
21	44	80.0	404	2 Q5U563_XENLA	Q5u563 xenopus lae
22	44	80.0	417	2 Q52KY3_XENLA	Q52ky3 xenopus lae
23	44	80.0	417	2 Q640T7_XENTR	Q640t7 xenopus tro
24	44	80.0	417	2 Q6GNE3_XENLA	Q6gne3 xenopus lae
25	42	76.4	2244	2 Q5K4D7_9PARA	Q5k4d7 nipah virus
26	42	76.4	2244	2 Q914E5_9PARA	Q914e5 nipah virus
27	42	76.4	2244	2 Q997F0_9PARA	Q997f0 nipah virus
28	42	76.4	2244	2 Q4VCP4_9PARA	Q4vcp4 nipah virus
29	41	74.5	326	2 Q8TN24_METAC	Q8tnz4 methanosarc
30	39	70.9	209	2 Q4P0S2_USTMA	Q4p0s2 ustilago ma
31	39	70.9	360	2 Q9NAT3_PLAFA	Q9nat3 plasmodium

Q25976 plasmodium  
Q9tyg1 plasmodium  
Q25971 plasmodium  
Q25966 plasmodium  
Q25972 plasmodium  
Q25981 plasmodium  
Q25973 plasmodium  
Q25984 plasmodium  
Q4tmu5 erythrobaet  
Q6sf42 uncultured  
Q61h98 caenorhabdi  
Q7qdv4 anopheles g  
P04932 plasmodium  
P04933 plasmodium

ALIGNMENTS

RESULT 1

Q95K22\_FELCA  
ID Q95K22\_FELCA PRELIMINARY; PRT; 94 AA.  
AC Q95K22; 2001 (TrEMBLrel. 19, Created)  
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)  
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)  
DE Parathyroid hormone-related protein precursor (Fragment).  
GN Name=PTHrP;  
OS Felis silvestris catus (Cat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
OC Felis.  
OX NCBI\_TaxID=9685;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX PubMed=11776973;  
RA Tannehill-Gregg S., Kergosien E., Rosol T.J.;  
RT "Feline head and neck squamous cell carcinoma cell line:  
characterization, production of parathyroid hormone-related protein,  
and regulation by transforming growth factor-beta.";  
RL In Vitro Cell. Dev. Biol. Anim. 37:676-683 (2001).  
[2]

NUCLEOTIDE SEQUENCE.

RA Tannehill-Gregg S.H., Rosol T.J., Kergosien E.A.;  
RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AY052414; AAL13054.1; -; mRNA.  
DR HSP; P12272; IBZG.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyrd\_hrm.  
DR InterPro; IPR003626; PTH\_related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR PRODOM; PD013225; PTH\_related; 1.  
DR SMART; SM00087; PTH; 1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
KW Signal.

FT SIGNAL <1 22 Potential.  
FT CHAIN 23 >94 parathyroid hormone-related protein.

FT NON\_TER 1 1  
FT NON\_TER 94 94

SQ SEQUENCE 94 AA; 10717 MW; DBD9FE0DC4D27C82 CRC64;

Query Match 100.0%; Score 55; DB 2; Length 94;

Best Local Similarity 100.0%; Pred. No. 0.02;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10

Db 45 FLHLLIAEIH 54

RESULT 2

PTHR\_SHEEP STANDARD; PRT; 121 AA.

AC Q9GK30; 16-OCT-2001 (Rel. 40, Created)

DT 16-OCT-2001 (Rel. 40, Last sequence update)

DT 10-MAY-2005 (Rel. 47, Last annotation update)

DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrp) (Fragment)

DE (Fragment)

GN Name=PTHrH;

OS Ovis aries (Sheep).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Caprinae; Ovis.

OC NCBI\_TaxID=9940;

OX [1]

RP NUCLEOTIDE SEQUENCE.

RA Hestie P.M., Beck N.F.G.;

RT "Expression of mRNA encoding parathyroid hormone-related peptide (PTH-rp) in ovine ovarian follicles";

RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).

CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).

CC -1- PTM: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).

CC -1- SIMILARITY: Belongs to the parathyroid hormone family.

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CC EMBL; AF327654; AAG48348.1; -; mRNA.

DR HSP; P12272; I2ZG.

DR InterPro; IPR001415; Parathyrd hrm.

DR PANTHER; PTHR17223; PTH\_related; 1.

DR Pfam; PF01279; Parathyroid; 1.

DR ProDom; PD013225; PTH\_related; 1.

DR SMART; SM00087; PTH; 1.

DR PROSITE; PS00335; PARATHYROID; 1.

KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein; Signal.

FT SIGNAL <1 14 Potential.

FT PROPEP 15 24 By similarity.

FT CHAIN 27 >121 Parathyroid hormone-related protein.

FT MOTIF 98 119 Nuclear localization signal (By similarity).

FT NON TER 1 1

FT NON TER 121 121

FT SEQUENCE 121 AA; 13658 MW; FA9437F5A5E041E1 CRC64;

Query Match 100.0%; Score 55; DB 1; Length 121;

Best Local Similarity 100.0%; Pred. No. 0.026;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10

Db 49 FLHLLIAEIH 58

RESULT 3

PTHR\_HORSE STANDARD; PRT; 137 AA.

AC Q9GME7; 16-OCT-2001 (Rel. 40, Created)

DT 16-OCT-2001 (Rel. 40, Last sequence update)

DT 10-MAY-2005 (Rel. 47, Last annotation update)

DE Parathyroid hormone-related protein (PTH-rp) (PTHrp) (Contains: Osteostatin) (Fragment).

DE Name=PTHrH;

OS Equus caballus (Horse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.

OC NCBI\_TaxID=9796;

OX [1]

RP NUCLEOTIDE SEQUENCE.

RA Nixon A.J., Bent S.J., Brower-Toland B.D.;

RT "Partial nucleotide sequence from the 5' end of equine parathyroid hormone-related peptide mRNA";

RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).

CC -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).

CC -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).

CC -1- PTM: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).

CC -1- SIMILARITY: Belongs to the parathyroid hormone family.

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CC EMBL; AY005821; AAF99386.1; -; mRNA.

DR HSP; P12272; I2ZG.

DR InterPro; IPR001415; Parathyrd hrm.

DR PANTHER; PTHR17223; PTH\_related; 1.

DR Pfam; PF01279; Parathyroid; 1.

DR ProDom; PD013225; PTH\_related; 1.

DR PROSITE; PS00335; PARATHYROID; PARTIAL.

KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein.

FT PROSITE; PS00335; PARATHYROID; 1.

FT PEPTIDE 103 135 Osteostatin (By similarity).

FT MOTIF 68 89 Nuclear localization signal (By similarity).

FT NON TER 1 1

FT NON TER 137 AA; 15845 MW; 38DDA1162EABAD34 CRC64;

Query Match 100.0%; Score 55; DB 1; Length 137;

Best Local Similarity 100.0%; Pred. No. 0.03;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10

Db 19 FLHLLIAEIH 28

RESULT 4

Q7YR12 CEREL

ID Q7YR12 CEREL PRELIMINARY; PRT; 170 AA.

AC Q7YR12;

DT 01-OCT-2003 (TrEMBLrel. 25, Created)

DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)

DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)

DE Parathyroid hormone related protein (Fragment).



OS Cervus elaphus (Red deer).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;  
 OC Pecora; Cervidae; Cervinae; Cervus.  
 OX NCBI\_TaxID=9860;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX PubMed=15516324; DOI=10.1016/j.cellbi.2004.05.005;  
 RA Barling P.M., Liu H., Matich J., Mount J., Ka Wai Lai A., Ma L.,  
 RA Bagford Nicholson L.F.,  
 RT "Expression of PTHR and the PTH/PTHrP receptor in growing red deer  
 RT antler.";  
 RL Cell Biol. Int. 28:661-673 (2004).  
 DR EMBL; AY328402; AAP93209.1; -; mRNA.  
 DR HSSP; P1272; 1BZG.  
 DR GO; GO:0005576; C:extracellular region; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007595; P:lactation; IEA.  
 DR InterPro; IPR001415; Parathyroid hrm.  
 DR InterPro; IPR003626; PTH related.  
 DR Pfam; PF01279; Parathyroid; 1.  
 DR ProDom; PD013225; PTH-related; 1.  
 FT NON\_TER  
 SQ SEQUENCE 170 AA; 19445 MW; 08A124B45BD33BF CRC64;  
 Query Match 100.0%; Score 55; DB 2; Length 170;  
 Best Local Similarity 100.0%; Pred. No. 0.038;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIABIH 10  
 Db 52 FLHLLIABIH 61

RESULT 5  
 PTHR MOUSE STANDARD; PRT; 175 AA.  
 AC P22858;  
 DT 01-AUG-1991 (Rel. 19, Created)  
 DT 01-AUG-1991 (Rel. 19, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-P) (PLP)  
 DE [Contains: Osteostatin].  
 GN Name=PTHrP; Synonyms=Pthrp;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC Muridea; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=91065532; PubMed=2249778; DOI=10.1016/0378-1119(90)90362-U;  
 RA Mangin M., Ikeda K., Broadus A.E.;  
 RT "Structure of the mouse gene encoding parathyroid hormone-related  
 RT peptide.";  
 RL Gene 95:195-202 (1990).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].  
 RC STRAIN=FVB/N; TISSUE=Mammary gland;  
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Ustin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Baha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Rosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S.J., Garcia A.M., Gay L.J., Rulyk S.W.,  
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahy J., Helton E., Kettner M., Madan A., Rodriguez S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallus D.E.,  
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
 CC cellular and organ growth, development, migration, differentiation  
 CC and survival and of epithelial calcium ion transport. Regulates  
 CC endochondral bone development and epithelial-mesenchymal  
 CC interactions during the formation of the mammary glands and teeth  
 CC (By similarity).  
 CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
 CC resorption (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
 CC similarity).  
 CC -!- PTM: There are several secretory forms, including osteostatin,  
 CC arising from endoproteolytic cleavage of the initial translation  
 CC product. Each of these secretory forms is believed to have one or  
 CC more of its own receptors that mediates the normal paracrine,  
 CC autocrine and endocrine actions (By similarity).  
 CC -!- SIMILARITY: Belongs to the parathyroid hormone family.  
 CC  
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 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.

EMBL; M60057; AAA63639.1; -; Genomic DNA.  
 DR EMBL; M60058; AAA63639.1; JOINED; Genomic DNA.  
 DR EMBL; M60056; AAA63639.1; JOINED; Genomic DNA.  
 DR EMBL; BC058187; AAH58187.1; -; mRNA.  
 DR PIR; JN0103; JN0103.  
 DR HSSP; P12272; 1BZG.  
 DR Ensembl; ENSMUSG00000048776; Mus musculus.  
 DR MGI; MGI:97800; Pthlh.  
 DR GO; GO:0005615; C:extracellular space; TAS.  
 DR GO; GO:0005179; F:hormone activity; TAS.  
 DR GO; GO:0048286; P:alveolus development; IMP.  
 DR GO; GO:0030855; P:epithelial cell differentiation; IMP.  
 DR GO; GO:0001501; P:skeletal development; IMP.  
 DR GO; GO:0043129; P:surfactant homeostasis; IMP.  
 DR InterPro; IPR001415; Parathyroid hrm.  
 DR InterPro; IPR003626; PTH-related.  
 DR PANTHER; PTHR17223; PTH-related; 1.  
 DR Pfam; PF01279; Parathyroid; 1.  
 DR ProDom; PD013225; PTH related; 1.  
 DR PROSITE; PS00335; PARATHYROID; 1.  
 KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;  
 KW Signal.  
 FT SIGNAL 1 24 Potential.  
 FT PROPEP 25 34  
 FT CHAIN 37 175 Parathyroid hormone-related protein.  
 FT PEPTIDE 143 173 Osteostatin (By similarity).  
 FT MOTIF 108 129 Nuclear localization signal (By  
 FT similarity).  
 SQ SEQUENCE 175 AA; 20100 MW; 6D27FCFC31900B45 CRC64;  
 Query Match 100.0%; Score 55; DB 1; Length 175;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIABIH 10  
 Db 59 FLHLLIABIH 68

RESULT 6  
 Q53XY9\_HUMAN  
 ID Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.  
 AC Q53XY9;

DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)  
 DE Parathyroid hormone-like hormone.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
 OC Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Kaindl N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,  
 RA Koundinya M., Raphael J., Moreira D., Kelley T., Labaer J., Lin Y.,  
 RA Phelan M., Farmer A.;  
 RT "Cloning of human full-length cDNAs in BD Creator(TM) System Donor  
 RT vector.";  
 RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; BT007178; AAF35842.1; -; mRNA.  
 SQ SEQUENCE 175 AA; 19900 MW; 4PEE954C51DB3E7D CRC64;  
  
 Query Match 100.0%; Score 55; DB 2; Length 175;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
 QY 1 FLHLLIAEIH 10  
 DB 59 FLHLLIAEIH 68  
  
 RESULT 7  
 ID Q811S6 MOUSE PRELIMINARY; PRT; 175 AA.  
 AC Q811S6;  
 DT 01-JUN-2003 (TrEMBLrel. 24, Created)  
 DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Parathyroid hormone-related peptide.  
 GN Name=Pthlh;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=SPRET/ET; TISSUE=Lung;  
 RX MEDLINE=22948948; PubMed=14586397; DOI=10.1038/sj.onc.1207088;  
 RA Benelli R., Peissel B., Manenti G., Gariboldi M., Vanzetto C.,  
 RA Albini A., Dragani T.A.;  
 RT "Allele-specific patterns of the mouse parathyroid hormone-related  
 RT protein: influences on cell adhesion and migration.";  
 RL Oncogene 22:7711-7715(2003).  
 DR EMBL; AY183377; AAO25537.1; -; mRNA.  
 DR HSP; P12272; 1BZG.  
 DR MGI; MGI:97800; Pthlh.  
 DR GO; GO:0005615; C:extracellular space; TAS.  
 DR GO; GO:0005179; F:hormone activity; TAS.  
 DR GO; GO:0048286; P:alveolus development; IMP.  
 DR GO; GO:0030282; P:bone mineralization; IMP.  
 DR GO; GO:0006874; P:calcium ion homeostasis; TAS.  
 DR GO; GO:0030855; P:epithelial cell differentiation; IMP.  
 DR GO; GO:0001501; P:skeletal development; IMP.  
 DR GO; GO:0043299; P:surfactant homeostasis; IMP.  
 DR InterPro; IPR001415; Parathyrd\_hrm.  
 DR Pfam; PF01279; Parathyroid; 1.  
 DR ProDom; PD013225; PTH-related; 1.  
 DR SMART; SM00087; PTH; 1.  
 DR PROSITE; PS00335; PARATHYROID; 1.  
 DR SIGNAL.  
 FT SIGNAL 1 36 Potential.  
 FT CHAIN 37 175 parathyroid hormone-related protein.  
 SQ SEQUENCE 175 AA; 20096 MW; 6D22DBCC31900B45 CRC64;  
  
 Query Match 100.0%; Score 55; DB 2; Length 175;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
 QY 1 FLHLLIAEIH 10  
 DB 59 FLHLLIAEIH 68  
  
 RESULT 8  
 ID Q924X4 MOUSE PRELIMINARY; PRT; 175 AA.  
 AC Q924X4;  
 DT 01-DEC-2001 (TrEMBLrel. 19, Created)  
 DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)  
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
 DE Parathyroid hormone-related protein precursor.  
 GN Name=Pthlh;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=C3H/HeJ; TISSUE=Lung;  
 RX MEDLINE=20552296; PubMed=11103933; DOI=10.1038/sj.onc.1203916;  
 RA Manenti G., Peissel B., Gariboldi M., Falvella F.S., Zaffaroni D.,  
 RA Allaria B., Pazzaglia S., Rebessi S., Covelli V., Saran A.,  
 RA Dragani T.A.;  
 RT "A cancer modifier role for parathyroid hormone-related protein.";  
 RL Oncogene 19:5324-5328(2000).  
 DR EMBL; AJ278119; CAC39218.1; -; mRNA.  
 DR HSP; P12272; 1BZG.  
 DR MGI; MGI:97800; Pthlh.  
 DR GO; GO:0005615; C:extracellular space; TAS.  
 DR GO; GO:0005179; F:hormone activity; TAS.  
 DR GO; GO:0048286; P:alveolus development; IMP.  
 DR GO; GO:0030282; P:bone mineralization; IMP.  
 DR GO; GO:0006874; P:calcium ion homeostasis; TAS.  
 DR GO; GO:0030855; P:epithelial cell differentiation; IMP.  
 DR GO; GO:0001501; P:skeletal development; IMP.  
 DR InterPro; IPR001415; Parathyrd\_hrm.  
 DR InterPro; IPR003626; PTH-related.  
 DR Pfam; PF01279; Parathyroid; 1.  
 DR ProDom; PD013225; PTH-related; 1.  
 DR SMART; SM00087; PTH; 1.  
 DR PROSITE; PS00335; PARATHYROID; 1.  
 DR SIGNAL.  
 FT SIGNAL 1 36 Potential.  
 FT CHAIN 37 175 parathyroid hormone-related protein.  
 SQ SEQUENCE 175 AA; 20096 MW; 6D22DBCC31900B45 CRC64;  
  
 Query Match 100.0%; Score 55; DB 2; Length 175;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
 QY 1 FLHLLIAEIH 10  
 DB 59 FLHLLIAEIH 68  
  
 RESULT 9  
 ID Q540C1 MOUSE PRELIMINARY; PRT; 175 AA.  
 AC Q540C1;  
 DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)  
 DE Parathyroid hormone-related protein precursor.  
 GN Name=Pthlh; Synonyms=Pthip;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC Homo.

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OC Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=C57BL/6;
RA Toribio R.E., Rourke K., Levine A., Kohn C.W., Rosol T.J.;
RT "Molecular cloning of the cDNA for Mus musculus parathyroid hormone-
RL related protein (PTHrP).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY220497; AA064343.1; -; mRNA.
DR MGI; MGI:97800; Pthlh.
DR GO; GO:0005615; C:extracellular space; TAS.
DR GO; GO:0005179; F:hormone activity; TAS.
DR GO; GO:0048286; P:alveolus development; IMP.
DR GO; GO:0030855; P:epithelial cell differentiation; IMP.
DR GO; GO:0001501; P:skeletal development; IMP.
DR GO; GO:0043129; P:surfactant homeostasis; IMP.
KW Signal.
FT SIGNAL 1 36 Potential.
FT CHAIN 37 175 parathyroid hormone-related protein.
SQ SEQUENCE 175 AA; 20100 MW; 6D27CFCC31900B45 CRC64;

Query Match 100.0%; Score 55; DB 2; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.039;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10
Db 59 FLHLLIAEIH 68

RESULT 10
PTHrP_BOVIN STANDARD; PRT; 177 AA.
ID PTHrP_BOVIN STANDARD; PRT; 177 AA.
AC P58073; Q8HY51;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp)
DE [Contains: Osteostatin].
GN Bos taurus (Bovine).
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC Pecora; Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=98244232; PubMed=9584841; DOI=10.1677/jme.0.0200271;
RA Wojcik S.F., Schanbacher F.L., McCauley L.K., Zhou H.,
RA Kartsogiannis V., Capen C.C., Rosol T.J.;
RT "Cloning of bovine parathyroid hormone-related protein (PTH-rp) cDNA
RT and expression of PTHrP mRNA in the bovine mammary gland.";
RL J. Mol. Endocrinol. 20:271-280(1998).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=Holstein-Friesian; TISSUE=Mammary gland;
RA Onda K., Inaba M., Ono K.;
RT "Molecular cloning of bovine parathyroid hormone-related protein
RT cDNA.";
RL Submitted (DEC-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of
CC cellular and organ growth, development, migration, differentiation
CC and survival and of epithelial calcium ion transport. Regulates
CC endochondral bone development and epithelial-mesenchymal
CC interactions during the formation of the mammary glands and teeth
CC (By similarity).
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone
CC resorption (By similarity).
CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
CC similarity).
CC -!- TISSUE SPECIFICITY: Expressed in the mammary gland.

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CC -!- PTM: There are several secretory forms, including osteostatin,
CC arising from endoproteolytic cleavage of the initial translation
CC product. Each of these secretory forms is believed to have one or
CC more of its own receptors that mediates the normal paracrine,
CC autocrine and endocrine actions (By similarity).
CC -!- SIMILARITY: Belongs to the parathyroid hormone family.
-----
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
-----
CC EMBL; AB097837; BAC4840.1; -; mRNA.
DR HSPG; P12272; IBZG.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH_related.
DR PANTHER; PTHR17223; PTH_related; 1.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH_related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
KW Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;
KW Signal.
FT SIGNAL 1 24 Potential.
FT PROPEP 25 34 By similarity.
FT CHAIN 37 177 Parathyroid hormone-related protein.
FT PEPTIDE 143 175 Osteostatin (By similarity).
FT MOTIF 108 129 Nuclear localization signal. (By
FT similarity).
FT CONFLICT 26 26 S -> L (in Ref. 2).
SQ SEQUENCE 177 AA; 20408 MW; 6A5B48ECB219EF08 CRC64;

Query Match 100.0%; Score 55; DB 1; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.039;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10
Db 59 FLHLLIAEIH 68

RESULT 11
PTHrP_CANFA STANDARD; PRT; 177 AA.
ID PTHrP_CANFA STANDARD; PRT; 177 AA.
AC P52211;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp)
DE [Contains: Osteostatin].
GN Name=PTHrP;
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC Canis.
OX NCBI_TaxID=9615;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Anal sac;
RX MEDLINE=95369696; PubMed=7642102; DOI=10.1016/0378-1119(94)00912-C;
RA Rosol T.J., Steinmeyer C.L., McCauley L.K., Greene A., DeWille J.W.,
RA Capen C.C.;
RT "Sequences of the cDNAs encoding canine parathyroid hormone-related
RT protein and parathyroid hormone.";
RL Gene 160:241-243(1995).
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of
CC cellular and organ growth, development, migration, differentiation
CC and survival and of epithelial calcium ion transport. Regulates
CC endochondral bone development and epithelial-mesenchymal
CC interactions during the formation of the mammary glands and teeth
CC (By similarity).
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone

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CC      resorption (By similarity).
CC      -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By
CC      similarity).
CC      -!- PTM: There are several secretory forms, including osteostatin,
CC      arising from endoproteolytic cleavage of the initial translation
CC      product. Each of these secretory forms is believed to have one or
CC      more of its own receptors that mediates the normal paracrine,
CC      autocrine and endocrine actions (By similarity).
CC      -!- SIMILARITY: Belongs to the parathyroid hormone family.
CC      -----
CC      This Swiss-Prot entry is copyright. It is produced through a collaboration
CC      between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC      the European Bioinformatics Institute. There are no restrictions on its
CC      use as long as its content is in no way modified and this statement is not
CC      removed.
CC      -----
CC      EMBL; U15593; AAA82583.1; -; mRNA.
CC      F01; J04201; J04201.
CC      HSP; P12272; 1B2G.
CC      Ensembl; ENSCAPG00000010955; Canis familiaris.
CC      InterPro; IPR001415; Parathyroid_hrm.
CC      InterPro; IPR003626; PTH_related.
CC      PANTHER; PTHR17223; PTH_related; 1.
CC      Pfam; PF01279; Parathyroid; 1.
CC      ProDom; PD013225; PTH_related; 1.
CC      SMART; SM00087; PTH; 1.
CC      PROSITE; PS00335; PARATHYROID; 1.
CC      Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein;
CC      Signal.
CC      SIGNAL      1      24      Potential.
CC      PROPEP      25      34      By similarity.
CC      CHAIN        37      177      Parathyroid hormone-related protein.
CC      PEPTIDE     143      175      Osteostatin (By similarity).
CC      MOTIF        108      129      Nuclear localization signal (By
CC      similarity).
CC      SQ      SEQUENCE 177 AA; 20299 MW; 93F57235C188A2CD CRC64;
      Query Match      100.0%; Score 55; DB 1; Length 177;
      Best Local Similarity 100.0%; Pred. No. 0.039;
      Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
      Oy      1 FLHLHIAEIH 10
      Db      59 FLHLHIAEIH 68
      RESULT 12
      PTHR_HUMAN      STANDARD;      PRT;      177 AA.
      AC      P12272; O15251;
      DT      01-OCT-1989 (Rel. 12, Created)
      DT      01-OCT-1989 (Rel. 12, Last sequence update)
      DE      10-MAY-2005 (Rel. 47, Last annotation update)
      DE      Parathyroid hormone-related protein precursor (PTH-rp) (PTHrP)
      DE      [Contains: PTHrP[1-36]; PTHrP[38-94]; Osteostatin (PTHrP[107-139])].
      GN      Name=PTHrP; Synonyms=PTHrP;
      OS      Homo sapiens (Human).
      OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
      OC      Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
      OC      Homo.
      OX      NCBI_TaxID=9606;
      RN      [1]
      RP      NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.
      RX      MEDLINE=87292119; PubMed=3616518;
      RA      Suva L.J., Winslow G.A., Wettenhall R.E.H., Hammonds R.G.,
      RA      Moseley J.M., Diefenbach-Jagger H., Rodda C.P., Kemp B.E.,
      RA      Rodriguez H., Chen E.Y., Hudson P.J., Martin T.J., Wood W.I.;
      RT      "A parathyroid hormone-related protein implicated in malignant
      RT      hypercalcaemia: cloning and expression.";
      RL      Science 237:893-896(1987).
      RN      [2]
      RP      NUCLEOTIDE SEQUENCE.
      RX      MEDLINE=88124888; PubMed=2829195;

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RA      Mangin M., Webb A.C., Dreyer B.E., Posillico J.T., Ikeda K.,
RA      Weir B.C., Stewart A.F., Bander N.H., Milstone L., Barton D.E.,
RA      Francke U., Broadus A.E.;
RT      "Identification of a cDNA encoding a parathyroid hormone-like peptide
RT      from a human tumor associated with humoral hypercalcemia of
RT      malignancy.";
RL      Proc. Natl. Acad. Sci. U.S.A. 85:597-601(1988).
RN      [3]
RP      NUCLEOTIDE SEQUENCE.
RX      MEDLINE=89214227; PubMed=2708388;
RA      Yasuda T., Banville D., Hendy G.N., Goltzman D.;
RT      "Characterization of the human parathyroid hormone-like peptide gene.
RT      Functional and evolutionary aspects.";
RL      J. Biol. Chem. 264:7720-7725(1989).
RN      [4]
RP      NUCLEOTIDE SEQUENCE (ISOFORM 2).
RX      MEDLINE=88262996; PubMed=3290897;
RA      Thiede M.A., Strewler G.J., Nissensohn R.A., Rosenblatt M., Rodan G.A.;
RT      "Human renal carcinoma expresses two messages encoding a parathyroid
RT      hormone-like peptide: evidence for the alternative splicing of a
RT      single-copy gene.";
RL      Proc. Natl. Acad. Sci. U.S.A. 85:4605-4609(1988).
RN      [5]
RP      NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 2).
RX      TISSUE=Brain;
RA      Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA      Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA      Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA      Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA      Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA      Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA      Raha S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA      Richardson S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA      Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA      Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA      Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA      Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA      Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA      Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT      "Generation and initial analysis of more than 15,000 full-length human
RT      and mouse cDNA sequences.";
RL      Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN      [6]
RP      NUCLEOTIDE SEQUENCE OF 1-33.
RX      TISSUE=Liver;
RA      MEDLINE=89306685; PubMed=2744490; DOI=10.1016/0378-1119(89)90363-6;
RA      Suva L.J., Mather K.A., Gillespie W.T., Webb G.C., Ng K.W.,
RA      Winslow G.A., Wood W.I., Martin T.J., Hudson P.J.;
RT      "Structure of the 5' flanking region of the gene encoding human
RT      parathyroid-hormone-related protein (PTHrP)."
RL      Gene 77:95-105(1989).
RN      [7]
RP      PROTEIN SEQUENCE OF 37-52.
RX      MEDLINE=87260926; PubMed=2885845;
RA      Moseley J.M., Kubota M., Diefenbach-Jagger H., Wettenhall R.E.H.,
RA      Kemp B.E., Suva L.J., Rodda C.P., Ebeling P.R., Hudson P.J.,
RA      Zajac J.D., Martin T.J.;
RT      "Parathyroid hormone-related protein purified from a human lung cancer
RT      cell line.";
RL      Proc. Natl. Acad. Sci. U.S.A. 84:5048-5052(1987).
RN      [8]
RP      ALTERNATIVE SPLICING (ISOFORM 3).
RX      MEDLINE=89184636; PubMed=2928340;
RA      Mangin M., Ikeda K., Dreyer B.E., Broadus A.E.;
RT      "Isolation and characterization of the human parathyroid hormone-like
RT      peptide gene.";
RL      Proc. Natl. Acad. Sci. U.S.A. 86:2408-2412(1989).
RN      [9]
RP      CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.

```

RX MEDLINE=92007462; PubMed=1915066;  
RA Fenton A.J., Kemp B.E., Kent G.N., Moseley J.M., Zheng M.H.,  
RA Rowe D.J., Britto J.M., Martin T.J., Nicholson G.C.;  
RT "A carboxyl-terminal peptide from the parathyroid hormone-related  
RL protein inhibits bone resorption by osteoclasts.";  
RL Endocrinology 129:1762-1768(1991).  
[10]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92063907; PubMed=1954916;  
RA Fenton A.J., Kemp B.E., Hammonds R.G., Mitchell K., Moseley J.M.,  
RA Martin T.J., Nicholson G.C.;  
RT "A potent inhibitor of osteoclastic bone resorption within a highly  
RL conserved pentapeptide region of parathyroid hormone-related protein;  
RL PTHrP107-111.";  
RL Endocrinology 129:3424-3426(1991).  
[11]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97289439; PubMed=9144344;  
RA Martinez M.E., Garcia-Ocana A., Sanchez M., Medina S., del Campo T.,  
RA Valin A., Sanchez-Cabredo M.J., Esbrit P.;  
RT "C-terminal parathyroid hormone-related protein inhibits proliferation  
RL and differentiation of human osteoblast-like cells.";  
RL J. Bone Miner. Res. 12:778-785(1997).  
[12]  
RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97200810; PubMed=9048639; DOI=10.1210/en.138.3.1299;  
RA Cornish J., Callon K.E., Nicholson G.C., Reid I.R.;  
RT "Parathyroid hormone-related protein-(107-139) inhibits bone  
RL resorption in vivo.";  
RL Endocrinology 138:1299-1304(1997).  
[13]  
RP NUCLEOCTOPLASMIC SHUTTLLING.  
RX MEDLINE=22736810; PubMed=12852260; DOI=10.1016/S0083-6729(03)01010-0;  
RA Jans D.A., Thomas R.J., Gillespie M.T.;  
RT "Parathyroid hormone-related protein (PTHrP): a nucleocytoplasmic  
RL shuttling protein with distinct paracrine and intracrine roles.";  
RL Vitam. Horm. 66:345-384(2003).  
[14]  
RP NUCLEAR LOCALIZATION SIGNAL.  
RX MEDLINE=21294781; PubMed=11401507; DOI=10.1006/bbrc.2001.4607;  
RA Lam M.H., Hu W., Xiao C.Y., Gillespie M.T., Jans D.A.;  
RT "Molecular dissection of the importin beta-recognized nuclear  
RL targeting signal of parathyroid hormone-related protein.";  
RL Biochem. Biophys. Res. Commun. 282:629-634(2001).  
[15]  
RP REVIEW.  
RX MEDLINE=22425984; PubMed=12538599; DOI=10.1210/en.2002-220818;  
RA Fiaschi-Taesch N.M., Stewart A.F.;  
RT "Mini-review: parathyroid hormone-related protein as an intracrine  
RL factor -- trafficking mechanisms and functional consequences.";  
RL Endocrinology 144:407-411(2003).  
[16]  
RP STRUCTURE BY NMR OF 37-70.  
RX MEDLINE=99158054; PubMed=10050767; DOI=10.1016/S0014-5793(98)01658-5;  
RA Weidner M., Marx U.C., Seidel G., Schafer W., Hoffmann E., Esswein A.,  
RA Rosch P.;  
RT "The structure of human parathyroid hormone-related protein(1-34) in  
RL near-physiological solution.";  
RL FEBS Lett. 444:239-244(1999).  
[17]  
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS) OF 103-130.  
RX MEDLINE=22394015; PubMed=12504010; DOI=10.1016/S1097-2765(02)00727-X;  
RA Cingolani G., Bedenko J., Gillespie M.T., Gerace L.;  
RT "Molecular basis for the recognition of a nonclassical nuclear  
RL localization signal by importin beta.";  
RL Mol. Cell 10:1345-1353(2002).  
[18]  
RP -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth.  
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption.

CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted.  
CC -!- ALTERNATIVE PRODUCTS:  
CC Event=Alternative splicing; Named isoforms=3;  
CC Comment=Additional isoforms seem to exist;  
CC Name=1;  
CC IsoId=P12272-1; Sequence=Displayed;  
CC Name=2;  
CC IsoId=P12272-2; Sequence=VSP\_004534;  
CC Name=3;  
CC IsoId=P12272-3; Sequence=VSP\_004535;  
CC -!- TISSUE SPECIFICITY: Ubiquitous. Also expressed in the mammary  
CC gland.  
CC -!- PTM: There are 3 principal secretory forms, called PTHrP[1-36],  
CC PTHrP[38-94], and osteostatin [PTHrP[107-139]] arising from  
CC endoproteolytic cleavage of the initial translation product. Each  
CC of these secretory forms is believed to have one or more of its  
CC own receptors that mediates the normal paracrine, autocrine and  
CC endocrine actions.  
CC -!- DISEASE: Produced by many tumors from patients with HMM (humoral  
CC hypercalcemia of malignancy).  
CC -!- SIMILARITY: Belongs to the parathyroid hormone family.  
CC -----  
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC -----  
CC EMBL; M17183, AAA60221.1; -; Genomic\_DNA.  
DR  
Query Match 100.0%; Score 55; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.039;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 FLHHLIAEIH 10  
Db 59 FLHHLIAEIH 68  
RESULT 13  
PTHrP\_RABIT  
ID PTHrP\_RABIT STANDARD; PRT; 177 AA.  
AC Q9GLC7;  
DT 16-OCT-2001 (Rel. 40, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrP)  
DE [Contains: Osteostatin].  
GN Name=PTHrP; Synonyms=PTHrP;  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae;  
OC Oryctolagus.  
OX NCBI\_TaxID=9986;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA McCaughen-Carucci J.F., Mitnick M., Emanuel J.R., Dworetzky S.I.;  
RT "Cloning and expression of rabbit parathyroid hormone-related  
RT protein.";  
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Neuroendocrine peptide which is a critical regulator of  
CC cellular and organ growth, development, migration, differentiation  
CC and survival and of epithelial calcium ion transport. Regulates  
CC endochondral bone development and epithelial-mesenchymal  
CC interactions during the formation of the mammary glands and teeth  
CC (By similarity).  
CC -!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone  
CC resorption (By similarity).  
CC -!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By  
CC similarity).  
CC -!- PTM: There are several secretory forms, including osteostatin,  
CC arising from endoproteolytic cleavage of the initial translation  
CC product. Each of these secretory forms is believed to have one or

more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).  
 -1- SIMILARITY: Belongs to the parathyroid hormone family.  
 -----  
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 -----  
 EMBL; AF300703; AAG13414.1; -; mRNA.  
 HSP; P12272; 1B2G.  
 InterPro; IPR001415; Parathyroid hrm.  
 InterPro; IPR003626; PTH related.  
 PANTHER; PTHR17223; PTH related; 1.  
 Pfam; PF01279; Parathyroid; 1.  
 ProDom; PD013225; PTH related; 1.  
 SMART; SM00087; PTH; 1.  
 PROSITE; PS00335; PARATHYROID; 1.  
 Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein; Signal.  
 SIGNAL 1 24 Potential.  
 PROPEP 25 34 By similarity.  
 CHAIN 37 177 Parathyroid hormone-related protein.  
 PEPTIDE 143 175 Osteostatin (By similarity).  
 MOTIF 108 129 Nuclear localization signal (By similarity).  
 SEQUENCE 177 AA; 20005 MW; E2D9F4327657B919 CRC64;  
 Query Match 100.0%; Score 55; DB 1; Length 177;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 FLHLIAEIH 10  
 DB 59 FLHLIAEIH 68  
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 RESULT 14  
 PTHR\_RAT STANDARD; PRT; 177 AA.  
 ID PTHR\_RAT STANDARD; PRT; 177 AA.  
 AC P13085;  
 DT 01-JAN-1990 (Rel. 13, Created)  
 DT 01-JAN-1990 (Rel. 13, Last sequence update)  
 DT 10-MAY-2005 (Rel. 47, Last annotation update)  
 DE Parathyroid hormone-related protein precursor (PTH-rp) (PLP)  
 DE [Contains: Osteostatin].  
 GN Name=Pthlh; Synonyms=Pthrp;  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;  
 OC Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=89019361; PubMed=3175653;  
 RA Thiede M.A., Rodan G.A.;  
 RT "Expression of a calcium-mobilizing parathyroid hormone-like peptide in lactating mammary tissue.";  
 RL Science 242:278-280 (1988).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=89313794; PubMed=2747658;  
 RA Yasuda T., Banville D., Rabbani S.A., Hendy G.N., Goltzman D.;  
 RT "Rat parathyroid hormone-like peptide: comparison with the human homologue and expression in malignant and normal tissue.";  
 RL Mol. Endocrinol. 3:518-525 (1989).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=90258937; PubMed=2342478;  
 RA Karaplis A.C., Yasuda T., Hendy G.N., Goltzman D., Banville D.;  
 RT "Gene-encoding parathyroid hormone-like peptide: nucleotide sequence of the rat gene and comparison with the human homologue.";  
 RT

Mol. Endocrinol. 4:441-446 (1990).  
 -1- FUNCTION: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth (By similarity).  
 -1- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption (By similarity).  
 -1- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted (By similarity).  
 -1- PTM: There are several secretory forms, including osteostatin, arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions (By similarity).  
 -1- SIMILARITY: Belongs to the parathyroid hormone family.  
 -----  
 This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.  
 -----  
 EMBL; M21967; AAA41981.1; -; mRNA.  
 EMBL; M31603; AAA41980.1; -; mRNA.  
 EMBL; M34112; AAA41889.1; -; Genomic DNA.  
 EMBL; M34108; AAA41889.1; JOINED; Genomic DNA.  
 EMBL; M34111; AAA41889.1; JOINED; Genomic DNA.  
 PIR; A34723; A30012.  
 HSP; P12272; 1B2G.  
 RGD; 3441; Pthlh.  
 InterPro; IPR001415; Parathyroid hrm.  
 InterPro; IPR003626; PTH related.  
 PANTHER; PTHR17223; PTH related; 1.  
 Pfam; PF01279; Parathyroid; 1.  
 ProDom; PD013225; PTH related; 1.  
 SMART; SM00087; PTH; 1.  
 PROSITE; PS00335; PARATHYROID; 1.  
 Calcium; Cleavage on pair of basic residues; Hormone; Nuclear protein; Signal.  
 SIGNAL 1 24 Potential.  
 PROPEP 25 34  
 CHAIN 37 177 Parathyroid hormone-related protein.  
 PEPTIDE 143 175 Osteostatin (By similarity).  
 MOTIF 108 129 Nuclear localization signal (By similarity).  
 SEQUENCE 177 AA; 20204 MW; 11091EC48CA73B20 CRC64;  
 Query Match 100.0%; Score 55; DB 1; Length 177;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 FLHLIAEIH 10  
 DB 59 FLHLIAEIH 68  
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 RESULT 15  
 Q6FH74\_HUMAN PRELIMINARY; PRT; 177 AA.  
 ID Q6FH74\_HUMAN PRELIMINARY; PRT; 177 AA.  
 AC Q6FH74;  
 DT 10-MAY-2005 (TrEMBLrel. 30, Created)  
 DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)  
 DT 10-MAY-2005 (TrEMBLrel. 30, Last annotation update)  
 DE PTHLH protein (Fragment).  
 GN Name=PTHLH;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
 OC Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]

RP NUCLEOTIDE SEQUENCE.  
 RA Halleck A., Ebert L., Moundinya M., Schick M., Eisenstein S.,  
 RA Neubert P., Kstrang K., Schatten R., Shen B., Henze S., Mar W.,  
 RA Korn B., Zuo D., Hu Y., LaBaer J.,  
 RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; CR541892; CAG46680.1; -; mRNA.  
 FT NON\_TER 177 177  
 SQ SEQUENCE 177 AA; 20194 MW; 449DFEE954C51DB CRC64;

Query Match 100.0%; Score 55; DB 2; Length 177;  
 Best Local Similarity 100.0%; Pred. No. 0.039;  
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10  
 |||||  
 Db 59 FLHHLIAEIH 68

Search completed: December 2, 2005, 23:19:36  
 Job time : 30.009 secs

**This Page Blank (uspto)**



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:28:10 ; Search time 6.79775 Seconds  
(without alignments)  
121.622 Million cell updates/sec

Title: US-10-691-125-3  
Perfect score: 55  
Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/ptodata/1/iaa/5 COMB.pep:\*  
2: /cgn2\_6/ptodata/1/iaa/6 COMB.pep:\*  
3: /cgn2\_6/ptodata/1/iaa/H COMB.pep:\*  
4: /cgn2\_6/ptodata/1/iaa/PCRTUS COMB.pep:\*  
5: /cgn2\_6/ptodata/1/iaa/RE COMB.pep:\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	55	100.0	27	2	US-09-843-221A-73
2	55	100.0	27	2	US-09-843-221A-74
3	55	100.0	28	1	US-07-778-926-2
4	55	100.0	28	2	US-09-228-990-77
5	55	100.0	28	2	US-09-442-989-23
6	55	100.0	28	2	US-09-843-221A-68
7	55	100.0	28	2	US-09-843-221A-69
8	55	100.0	28	2	US-09-843-221A-70
9	55	100.0	28	2	US-09-843-221A-71
10	55	100.0	28	2	US-09-843-221A-72
11	55	100.0	28	2	US-09-843-221A-75
12	55	100.0	28	2	US-09-843-221A-169
13	55	100.0	28	2	US-09-623-548A-300
14	55	100.0	28	2	US-09-657-276-300
15	55	100.0	29	1	US-07-778-926-6
16	55	100.0	29	1	US-08-305-799A-5
17	55	100.0	30	1	US-07-778-926-10
18	55	100.0	30	1	US-08-305-799A-3
19	55	100.0	30	1	US-08-305-799A-4
20	55	100.0	30	1	US-08-305-799A-6
21	55	100.0	30	1	US-08-305-799A-7
22	55	100.0	30	1	US-08-305-799A-8
23	55	100.0	30	1	US-08-305-799A-9
24	55	100.0	30	1	US-08-305-799A-10
25	55	100.0	31	1	US-07-778-926-14
26	55	100.0	32	1	US-07-778-926-3
27	55	100.0	32	1	US-07-778-926-18

28	55	100.0	32	1	US-08-305-799A-1	Sequence 1, Appli
29	55	100.0	32	1	US-08-305-799A-2	Sequence 2, Appli
30	55	100.0	33	1	US-07-778-926-7	Sequence 7, Appli
31	55	100.0	33	2	US-09-843-221A-67	Sequence 67, Appli
32	55	100.0	33	2	US-09-623-548A-296	Sequence 296, App
33	55	100.0	33	2	US-09-657-276-296	Sequence 296, App
34	55	100.0	34	1	US-07-778-926-11	Sequence 11, Appli
35	55	100.0	34	1	US-07-969-453-1	Sequence 1, Appli
36	55	100.0	34	1	US-07-915-247A-4	Sequence 4, Appli
37	55	100.0	34	1	US-08-443-863-4	Sequence 4, Appli
38	55	100.0	34	1	US-08-448-070-4	Sequence 4, Appli
39	55	100.0	34	1	US-08-449-500-4	Sequence 4, Appli
40	55	100.0	34	1	US-08-449-317A-4	Sequence 4, Appli
41	55	100.0	34	1	US-08-477-022-4	Sequence 4, Appli
42	55	100.0	34	1	US-08-449-447-4	Sequence 4, Appli
43	55	100.0	34	1	US-08-184-328-4	Sequence 4, Appli
44	55	100.0	34	1	US-08-521-097-4	Sequence 4, Appli
45	55	100.0	34	2	US-08-903-497A-7	Sequence 7, Appli

ALIGNMENTS

RESULT 1  
US-09-843-221A-73  
; Sequence 73, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843, 221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266, 673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214, 860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200, 053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 73  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrp  
; NAME/KEY: misc feature  
; LOCATION: (5)..(5)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-73

Query Match 100.0%; Score 55; DB 2; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.0047;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
Db 16 FLHLLIAEIH 25

RESULT 2  
US-09-843-221A-74  
; Sequence 74, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H

;; TITLE OF INVENTION: RELATED PROTEIN  
;; FILE REFERENCE: A-665B  
;; CURRENT APPLICATION NUMBER: US/09/843,221A  
;; CURRENT FILING DATE: 2001-04-26  
;; PRIOR APPLICATION NUMBER: 60/266,673  
;; PRIOR FILING DATE: 2001-02-06  
;; PRIOR APPLICATION NUMBER: 60/214,860  
;; PRIOR FILING DATE: 2000-06-28  
;; PRIOR APPLICATION NUMBER: 60/200,053  
;; PRIOR FILING DATE: 2000-04-27  
;; NUMBER OF SEQ ID NOS: 170  
;; SOFTWARE: PatentIn version 3.1  
;; SEQ ID NO 74  
;; LENGTH: 27  
;; TYPE: PRT  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: modified PThrp  
;; NAME/KEY: misc feature  
;; LOCATION: (5)..(5)  
;; OTHER INFORMATION: D amino acid  
US-09-843-221A-74

Query Match 100.0%; Score 55; DB 2; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.0047;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
Db 16 FLHLLIAEIH 25

## RESULT 3

US-07-778-926-2  
; Sequence 2, Application US/07778926  
; Patent No. 5252705  
; GENERAL INFORMATION:  
; APPLICANT: Tatsuhiko KANWERA et al.  
; TITLE OF INVENTION: Peptide Derivatives  
; NUMBER OF SEQUENCES: 21  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Wenderoth, Lind & Ponack  
; STREET: 805 Fifteenth Street, N.W., #700  
; CITY: Washington  
; STATE: D.C.  
; COUNTRY: U.S.A.  
; ZIP: 20005  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: MS-DOS  
; SOFTWARE: DisplayWrite  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/778,926  
; FILING DATE: 19911211  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Warren M. Cheek Jr.  
; REGISTRATION NUMBER: 33,367  
; REFERENCE/DOCKET NUMBER:  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 202-371-8850  
; TELEFAX:  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 28 amino acid residues  
; TYPE: AMINO ACID  
; STRANDEDNESS: single  
; TOPOLOGY: linear

;; MOLECULE TYPE:  
;; HYPOTHETICAL:  
;; ANTI-SENSE:  
;; FRAGMENT TYPE:  
;; ORIGINAL SOURCE:  
;; ORGANISM:  
;; STRAIN:  
;; INDIVIDUAL ISOLATE:  
;; DEVELOPMENTAL STAGE:  
;; HAPLOTYPE:  
;; TISSUE TYPE:  
;; CELL TYPE:  
;; CELL LINE:  
;; ORGANELLE:  
;; IMMEDIATE SOURCE:  
;; LIBRARY:  
;; CLONE:  
;; POSITION IN GENOME:  
;; CHROMOSOME/SEGMENT:  
;; MAP POSITION:  
;; UNITS:  
;; FEATURE:  
;; NAME/KEY: modified-site  
;; LOCATION: 28  
;; IDENTIFICATION METHOD:  
;; OTHER INFORMATION: /note= "Ala-OH or  
;; OTHER INFORMATION: Ala-NH2"  
;; PUBLICATION INFORMATION:  
;; AUTHORS:  
;; TITLE:  
;; JOURNAL:  
;; VOLUME:  
;; ISSUE:  
;; PAGES:  
;; DATE:  
;; DOCUMENT NUMBER:  
;; FILING DATE:  
;; PUBLICATION DATE:  
;; RELEVANT RESIDUES IN SEQ ID NO:  
US-07-778-926-2

Query Match 100.0%; Score 55; DB 1; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
Db 17 FLHLLIAEIH 26

RESULT 4  
US-09-228-990-77  
; Sequence 77, Application US/09228990  
; Patent No. 6472505  
; GENERAL INFORMATION:  
; APPLICANT: Condon, Stephen M.  
; APPLICANT: Morize, Isabelle  
; TITLE OF INVENTION: PEPTIDE PARATHYROID HORMONE ANALOGS  
; NUMBER OF SEQUENCES: 88  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Rhone-Poulenc Rorer Inc.  
; STREET: 500 Arcola Road, Mailstop 3C43  
; CITY: Collegeville  
; STATE: PA  
; COUNTRY: USA  
; ZIP: 19426  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/228,990

;; FILING DATE:  
;; CLASSIFICATION:  
;; PRIOR APPLICATION DATA:  
;; APPLICATION NUMBER: US 60/046,472  
;; FILING DATE: 14-MAY-1997  
;; ATTORNEY/AGENT INFORMATION:  
;; NAME: Martin Esq., Michael B.  
;; REGISTRATION NUMBER: 37,521  
;; REFERENCE/DOCKET NUMBER: A2678B-WO  
;; TELECOMMUNICATION INFORMATION:  
;; TELEPHONE: (610) 454-2793  
;; TELEFAX: (610) 454-3808  
;; INFORMATION FOR SEQ ID NO: 77:  
;; SEQUENCE CHARACTERISTICS:  
;; LENGTH: 28 amino acids  
;; TYPE: amino acid  
;; STRANDEDNESS:  
;; TOPOLOGY: not relevant  
;; MOLECULE TYPE: peptide  
;; FRAGMENT TYPE: N-terminal  
;; FEATURE:  
;; NAME/KEY: Peptide  
;; LOCATION: 12..16  
;; OTHER INFORMATION: /product= "OTHER"  
;; OTHER INFORMATION: /note= "The side chains of Lys at position 12 and Asp at  
;; OTHER INFORMATION: position 16 are linked by an amide bond."  
;; FEATURE:  
;; NAME/KEY: Peptide  
;; LOCATION: 28  
;; OTHER INFORMATION: /product= "OTHER"  
;; OTHER INFORMATION: /note= "This C-terminal amino acid is an amide, i.e., CONH2."  
US-09-228-990-77

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
Db 17 FLHHLIAEIH 26

RESULT 5  
US-09-442-989-23  
; Sequence 23, Application US/09442989  
; Patent No. 6569993  
; GENERAL INFORMATION:  
; APPLICANT: Sledeski, Adam W.  
; APPLICANT: Mencel, James J.  
; TITLE OF INVENTION: PROCESS FOR THE PREPARATION OF RESIN-BOUND CYCLIC  
; TITLE OF INVENTION: PEPTIDES  
; FILE REFERENCE: A3113B-US  
; CURRENT APPLICATION NUMBER: US/09/442,989  
; CURRENT FILING DATE: 1999-11-18  
; EARLIER APPLICATION NUMBER: 60/081,897  
; EARLIER FILING DATE: 1998-04-15  
; NUMBER OF SEQ ID NOS: 46  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 23  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; NAME/KEY: PEPTIDE  
; LOCATION: (12)..(16)  
; OTHER INFORMATION: "Synthetic Peptide: The side chains of Lys at  
; OTHER INFORMATION: position 12 and Asp at position 16 are linked by  
; OTHER INFORMATION: an amide bond."  
; FEATURE:  
; NAME/KEY: PEPTIDE  
; LOCATION: (28)  
; OTHER INFORMATION: "This C-terminal amino acid is an amide, i.e.,  
; OTHER INFORMATION: CONH2."

US-09-442-989-23

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
Db 17 FLHHLIAEIH 26

RESULT 6  
US-09-843-221A-68  
; Sequence 68, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 68  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-843-221A-68

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHHLIAEIH 10  
Db 17 FLHHLIAEIH 26

RESULT 7  
US-09-843-221A-69  
; Sequence 69, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 69  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:

; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-69

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
|||||

Db 17 FLHLLIAEIH 26

## RESULT 8

US-09-843-221A-70  
; Sequence 70, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 70  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrP  
US-09-843-221A-70

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
|||||

Db 17 FLHLLIAEIH 26

## RESULT 9

US-09-843-221A-71  
; Sequence 71, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 71  
; LENGTH: 28

; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
; NAME/KEY: misc\_feature  
; LOCATION: (6)..(6)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-71

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
|||||

Db 17 FLHLLIAEIH 26

## RESULT 10

US-09-843-221A-72  
; Sequence 72, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 72  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrP  
; NAME/KEY: misc\_feature  
; LOCATION: (6)..(6)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-72

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
|||||

Db 17 FLHLLIAEIH 26

## RESULT 11

US-09-843-221A-75  
; Sequence 75, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673

; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 75  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; NAME/KEY: modified human PTHrP  
; LOCATION: (6)-(6)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-75

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 17 FLHHLIAEIH 26

RESULT 12  
US-09-843-221A-169  
; Sequence 169, Application US/09843221A  
; Patent No. 6756480  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 169  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Preferred embodiments - PTHrP  
; NAME/KEY: misc feature  
; LOCATION: (28)-(28)  
; OTHER INFORMATION: Optional linker and Fc domain attached at the C-terminus  
US-09-843-221A-169

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 17 FLHHLIAEIH 26

RESULT 13  
US-09-623-548A-300  
; Sequence 300, Application US/09623548A  
; Patent No. 6849714  
; GENERAL INFORMATION:

; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/623,548A  
; CURRENT FILING DATE: 2000-09-05  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 300  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-623-548A-300

Query Match 100.0%; Score 55; DB 2; Length 28;  
Best Local Similarity 100.0%; Pred. No. 0.0048;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 17 FLHHLIAEIH 26

RESULT 14  
US-09-657-276-300  
; Sequence 300, Application US/09657276  
; Patent No. 6887470  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/657,276  
; CURRENT FILING DATE: 2000-09-07  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 300  
; LENGTH: 28  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-657-276-300

Query Match 100.0%; Score 55; DB 2; Length 28;



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:03:56 ; Search time 24.8764 Seconds  
(without alignments)  
158.962 Million cell updates/sec

Title: US-10-691-125-4

Perfect score: 50

Sequence: 1 WLDGVTGS 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : A Geneseq 21.\*

- 1: geneseqp1980s.\*
- 2: geneseqp1990s.\*
- 3: geneseqp2000s.\*
- 4: geneseqp2001s.\*
- 5: geneseqp2002s.\*
- 6: geneseqp2003as.\*
- 7: geneseqp2003bs.\*
- 8: geneseqp2004s.\*
- 9: geneseqp2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	50	100.0	9	ADW99593	Adw99593 Human par
2	50	100.0	21	AAU77909	AAU77909 Human PTH
3	50	100.0	23	ADK98650	Adk98650 Parathyro
4	50	100.0	24	ADK98651	Adk98651 Parathyro
5	50	100.0	32	AAB91131	Aab91131 Parathyro
6	50	100.0	33	AAB91132	Aab91132 Parathyro
7	50	100.0	33	AAU77907	AAU77907 Human PTH
8	50	100.0	33	ADK98655	Adk98655 Parathyro
9	50	100.0	33	ADK98654	Adk98654 Parathyro
10	50	100.0	33	ADK98658	Adk98658 Human par
11	50	100.0	33	ADK98656	Adk98656 Parathyro
12	50	100.0	34	AAK26411	AAK26411 C-termina
13	50	100.0	56	AAK41539	AAK41539 Synthetic
14	50	100.0	79	AAK06980	AAK06980 PTH-rp (B)
15	50	100.0	133	AAE23744	AAE23744 Human par
16	50	100.0	135	AAE23745	AAE23745 Human par
17	50	100.0	139	AAO14630	AAO14630 Human PTH
18	50	100.0	139	ABO44991	ABO44991 Human par
19	50	100.0	139	AAE23750	AAE23750 Human par
20	50	100.0	139	ADP04402	ADP04402 Human par
21	50	100.0	141	AAW99452	AAW99452 Human par
22	50	100.0	141	AAO14631	AAO14631 Human PTH
23	50	100.0	141	ABO44992	ABO44992 Human par
24	50	100.0	141	AAE23749	AAE23749 Human par

25	50	100.0	141	8	ADP04403	Adp04403 Human par
26	50	100.0	141	9	ADW99590	Adw99590 Human par
27	50	100.0	173	5	AAO14632	AAO14632 Human PTH
28	50	100.0	173	5	ABB04993	Abb04993 Human par
29	50	100.0	173	5	ADP04404	Adp04404 Human par
30	50	100.0	173	6	ABU56498	Abu56498 Lung canc
31	50	100.0	175	6	ABU56578	Abu56578 Lung canc
32	50	100.0	175	6	ABR92141	ABr92141 Human cer
33	50	100.0	175	8	ADJ36543	Adj36543 Human pro
34	50	100.0	175	8	ADK98647	Adk98647 Human par
35	50	100.0	175	8	ADU06427	Adu06427 Novel bro
36	50	100.0	177	1	ADP80303	ADp80303 Sequence
37	50	100.0	177	1	AAp80304	AAp80304 Sequence
38	50	100.0	177	2	AAW12724	AAw12724 PTH-like
39	50	100.0	177	2	AAy41037	AAy41037 Human lun
40	50	100.0	177	2	AAy41038	AAy41038 Human lun
41	50	100.0	177	3	AAb11323	AAb11323 Human lun
42	50	100.0	177	3	AAb11322	AAb11322 Human lun
43	50	100.0	177	5	ABB74954	ABb74954 Human lun
44	50	100.0	177	5	ABB74955	ABb74955 Human lun
45	50	100.0	177	5	ABP61874	ABp61874 Human lun

## ALIGNMENTS

### RESULT 1

ADW99593  
ID ADW99593 standard; peptide; 9 AA.

XX AC ADW99593;

XX DT 21-APR-2005 (first entry)

XX DE Human parathyroid hormone-related peptide PTR-3.

XX KW recombinant protein; cytostatic; vaccine; immune stimulation;  
immunostimulatory; parathyroid hormone related peptide; tumor;  
metastasis.

XX OS Homo sapiens.

XX PN US2005033023-A1.

XX PD 10-FEB-2005.

XX PF 21-OCT-2003; 2003US-00691125.

XX PR 21-OCT-2002; 2002US-0420165P.

XX PA (CORR/) CORREALE P.

XX PA (CUSI/) CUSI M G.

XX PA (FRAN/) FRANCINI G.

XX PI Correale P, Cusi MG, Francini G;

XX DR WPI; 2005-151693/16.

XX Novel isolated immunostimulatory parathyroid hormone related peptide (PTH-rp), useful for immunizing and treating subjects against metastases and tumors.

XX Claim 2; SEQ ID NO 4; 35pp; English.

XX The invention relates to an isolated immunostimulatory parathyroid hormone related peptide (PTH-rp) (I) comprising a fragment of the amino acid sequence of a fully defined sequence (S1) of 141 amino acids as given in the specification, or its functional variant comprising one or more amino acid additions, substitution or deletions. (I) is useful for generating T cells active against PTH-rp expressing tumors and metastasis, which involves stimulating T cells in the presence of antigen presenting cells that have been exposed to (I). The antigen presenting cells have been infected with virosmes containing PTH-rp plasmids,

CC virosomes encapsulating (I) or virosomes comprising (I) crosslinked to  
CC its surface. (II) is useful for generating a T cell response specific for  
CC PTH-rp, which involves immunizing a subject with (I). The protein, an  
CC epitope from it, DNA encoding it, vectors and host cells are useful for  
CC inducing an immune response against PTH-rp expressing tumors and  
CC metastasis, by immunization. They are useful for treating PTH-rp  
CC expressing tumors and metastasis, immunizing a subject against metastasis  
CC and tumors or for preventing the occurrence or recurrence of PTH-rp  
CC expressing tumors and metastasis. This sequence corresponds to a peptide  
CC from the human PTH-rp protein.

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 50; DB 9; Length 9;

Best Local Similarity 100.0%; Pred. No. 2e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9

|||||||

Db 1 WLDGVTGS 9

RESULT 2

AAU77909

ID AAU77909 standard; peptide; 21 AA.

AC AAU77909;

XX 05-JUN-2002 (first entry)

DT Human PTHrP fragment (residues 107-127) resulting from secPHEX cleavage.

DE Human; bone-related disorder; osteogenesis; secPHEX; endopeptidase;

XX phosphate regulating gene; osteocalcin; teeth; bone mass; bone growth;

KW osteopenia; osteoporosis; rickets; X-linked hypophosphataemic rickets;

KW orthopaedic; osteopathic; dental intervention; PTHrP.

XX Homo sapiens.

OS WO200215918-A2.

PN 28-FEB-2002.

PD 23-AUG-2001; 2001WO-CA001220.

PF 23-AUG-2000; 2000US-0227012P.

XX (UYMO-) UNIV MONTREAL.

PR Boileau G;

XX WPI; 2002-280858/32.

DR Preventing or treating bone-related disorder or condition requiring

XX osteogenesis in mammals, by administering secPHEX or its mutant, a

PT substance that binds to osteocalcin or antibody specific to osteocalcin.

XX Disclosure; Fig 4; 52pp; English.

PS The present invention relates to a method for preventing or treating a

XX bone-related disorder or condition that involves osteogenesis in mammals.

CC The method comprises administering secPHEX (a phosphate regulating gene

CC with homologues to Endopeptidases on the X chromosome), secPHEX551V, a

CC substance capable of binding to osteocalcin, or an antibody specific to

CC osteocalcin. PHEX activity can be increased by inhibiting osteocalcin.

CC Since PHEX is generally associated with the growth plane of bone or teeth

CC and the absence of osteocalcin with increased bone mass, potentiation of

CC PHEX activity can promote bone growth. The invention also provides

CC several new substrates for measuring PHEX enzyme activity. The method of

CC the invention is useful for preventing or treating bone-related

CC disorders, such as osteopenia, osteoporosis, rickets, X-linked

CC hypophosphataemic rickets, and conditions such as orthopaedic and dental

CC intervention. The present peptide sequence represents a human PTH-rp

CC fragment resulting from secPHEX cleavage

XX SQ Sequence 21 AA;

Query Match 100.0%; Score 50; DB 5; Length 21;

Best Local Similarity 100.0%; Pred. No. 0.054;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9

|||||||

Db 5 WLDGVTGS 13

RESULT 3

ADK98650

ID ADK98650 standard; peptide; 23 AA.

AC ADK98650;

XX 20-MAY-2004 (first entry)

DT Parathyroid hormone related protein (PTHrP) related peptide seqid 6.

DE cytotatic; antiasthmatic; hypotensive; hepatotropic;

XX antiarteriosclerotic; uropathic; vasotropic;

KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;

KW retinoblastoma; p27kip1;

KW smooth muscle cell proliferation-associated disorder;

KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;

KW portal hypertension; cirrhosis; pulmonary arterial hypertension;

KW systemic arterial hypertension; atherosclerosis; bladder disease;

KW vascular restenosis; angioplasty.

XX Homo sapiens.

OS WO2004016151-A2.

PN 26-FEB-2004.

PD 13-AUG-2003; 2003WO-US025473.

PF 15-AUG-2002; 2002US-0403805P.

XX (OSTE-) OSTROTROPHIN LLC.

PA Stewart AF, Fiaschi-Taesch N;

XX WPI; 2004-192051/18.

DR New compound comprising a parathyroid hormone-related protein (PTHrP)

XX mutant polypeptide, useful for treating or preventing smooth muscle cell

PT proliferation-associated disorders, such as atherosclerosis or bronchial

XX asthma.

XX Claim 46; SEQ ID NO 6; 100pp; English.

PS The invention describes a compound comprising a parathyroid hormone-

XX related protein (PTHrP) mutant polypeptide (I). (I) has the following

CC characteristics: the compound lacks a functional nuclear localisation

CC signal, or has a functional nuclear localisation signal and one or more

CC modified amino acids in the region of PTHrP(112-139); overexpressing the

CC compound in a vascular smooth muscle cell decreases the level of

CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the

CC level of phosphorylated immunoreactive retinoblastoma polypeptide

CC observed in the absence of the compound; and overexpressing the compound

CC in a vascular smooth muscle cell increases the level of immunoreactive

CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1

CC polypeptide observed in the absence of the compound. (I) is useful for

CC treating or preventing a smooth muscle cell proliferation-associated

CC disorder, particularly in humans, such as uterine fibroid tumours,

CC prostatic hypertrophy, bronchial asthma, portal hypertension in

CC cirrhosis, pulmonary arterial hypertension, systemic arterial

CC hypertension, atherosclerosis, bladder disease, and vascular restenosis



CC after angioplasty. (I) is also useful in the manufacture of a medicament  
CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of human parathyroid hormone related protein  
CC (PTHrP) residues 121-130 that can be deleted from human PTHrP in the  
CC creation of a mutant of the invention.

XX Sequence 23 AA;

Query Match 100.0%; Score 50; DB 8; Length 23;  
Best Local Similarity 100.0%; Pred. No. 0.06;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | | | | | |  
Db 5 WLDGVTGS 13

#### RESULT 4

ID ADK98651 standard; peptide; 24 AA.

XX ADK98651;

DT 20-MAY-2004 (first entry)

DE Parathyroid hormone related protein (PTHrP) related peptide seqid 7.

DE cytotatic; antiasthmatic; hypotensive; hepatotropic;

KW antiarteriosclerotic; uropathic; vasotropic;

KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;

KW retinoblastoma; p27kip1;

KW smooth muscle cell proliferation-associated disorder;

KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;

KW portal hypertension; cirrhosis; pulmonary arterial hypertension;

KW systemic arterial hypertension; atherosclerosis; bladder disease;

KW vascular restenosis; angioplasty.

XX Homo sapiens.

OS WO2004016151-A2.

PN 26-FEB-2004.

PD 13-AUG-2003; 2003WO-US025473.

PF 15-AUG-2002; 2002US-0403805P.

PR (OSTE-) OSTEOTROPHIN LLC.

XX Stewart AF, Fiaschi-Taesch N;

PI WPI; 2004-192051/18.

DR New compound comprising a parathyroid hormone-related protein (PTHrP)

XX mutant polypeptide, useful for treating or preventing smooth muscle cell

XX proliferation-associated disorders, such as atherosclerosis or bronchial

XX asthma.

PS Claim 46; SEQ ID NO 7; 100pp; English.

XX The invention describes a compound comprising a parathyroid hormone-

XX related protein (PTHrP) mutant polypeptide (I). (I) has the following

XX characteristics: the compound lacks a functional nuclear localisation

XX signal, or has a functional nuclear localisation signal and one or more

XX modified amino acids in the region of PTHrP(112-139); overexpressing the

XX compound in a vascular smooth muscle cell decreases the level of

XX phosphorylated immunoreactive retinoblastoma polypeptide compared to the

XX level of phosphorylated immunoreactive retinoblastoma polypeptide

XX observed in the absence of the compound; and overexpressing the compound

XX in a vascular smooth muscle cell increases the level of immunoreactive

XX p27kip1 polypeptide compared to the level of immunoreactive p27kip1

XX polypeptide observed in the absence of the compound. (I) is useful for

XX treating or preventing a smooth muscle cell proliferation-associated

CC disorder, particularly in humans, such as uterine fibroid tumours,  
CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
CC hypertension, atherosclerosis, bladder disease, and vascular  
CC after angioplasty. (I) is also useful in the manufacture of a medicament  
CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of human parathyroid hormone related protein  
CC (PTHrP) residues 131-139 that can be deleted from human PTHrP in the  
CC creation of a mutant of the invention.

XX Sequence 24 AA;

Query Match 100.0%; Score 50; DB 8; Length 24;  
Best Local Similarity 100.0%; Pred. No. 0.062;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | | | | | |  
Db 5 WLDGVTGS 13

#### RESULT 5

ID AAB91131 standard; peptide; 32 AA.

XX AAB91131;

DT 22-JUN-2001 (first entry)

DE Parathyroid hormone related protein (PTHrP) peptide SEQ ID NO:305.

KW Protection; endogenous therapeutic peptide; peptidase; conjugation;

KW blood component; modification; succinimidy; maleimido group; amino;

KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.

XX Homo sapiens.

OS Synthetic.

PN WO200069900-A2.

PD 23-NOV-2000.

PF 17-MAY-2000; 2000WO-US013576.

PR 17-MAY-1999; 99US-0134406P.

PR 10-SEP-1999; 99US-0153406P.

PR 15-OCT-1999; 99US-0159783P.

XX (CONJ-) CONJUCHEM INC.

PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudau K;

XX WPI; 2001-112059/12.

DR Modifying and attaching therapeutic peptides to albumin prevents

XX peptidase degradation, useful for increasing length of in vivo activity.

PS Disclosure; Page 293-294; 733pp; English.

XX The present invention describes a modified therapeutic peptide (I)

XX comprising a therapeutically active amino acid region (iii) and a

XX reactive group (ii) (e.g. succinimidy and maleimido groups) attached to

XX a less therapeutically active amino acid region (iv), which covalently

XX bonds with amino/hydroxyl/thiol groups on blood components to form a

XX peptidase stabilised therapeutic peptide composed of 3-50 amino acids.

XX (I) are useful for modifying therapeutic peptides e.g. hormones, growth

XX factors and neurotransmitters, to protect them from peptidase activity

XX vivo for the treatment of various disorders. Endogenous therapeutic

XX peptides are not suitable as drug candidates as they require frequent

XX administration due to rapid degradation by peptidases in the body.

XX Modifying and attaching therapeutic peptides to albumin prevents or

XX reduces the action of peptidases to increase length of activity (half

XX life) and specificity as bonding to large molecules decreases

CC intracellular uptake and interference with physiological processes.  
CC AAB90829 to AAB92441 represent peptides which can be used in the  
CC exemplification of the present invention

XX SQ Sequence 32 AA;

Query Match 100.0%; Score 50; DB 4; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.085;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
| | | | | | | | |  
Db 5 WLDGSGVTGS 13

RESULT 6  
AAB91132  
ID AAB91132 standard; peptide; 33 AA.  
AC AAB91132;  
XX  
XX 22-JUN-2001 (first entry)  
XX Parathyroid hormone related protein (PTHrP) peptide SEQ ID NO:306.  
XX  
XX Protection; endogenous therapeutic peptide; peptidase; conjugation;  
XX blood component; modification; succinimidy; maleimido group; amino;  
XX hydroxyl; thiol; hormone; growth factor; neurotransmitter.  
XX  
XX Homo sapiens.  
XX Synthetic.  
XX WO200069900-A2.  
XX  
XX 23-NOV-2000.  
XX  
XX 17-MAY-2000; 2000WO-US013576.  
XX  
XX 17-MAY-1999; 99US-0134406P.  
XX 10-SEP-1999; 99US-0153406P.  
XX 15-OCT-1999; 99US-0159783P.  
XX  
XX (CONJ-) CONJUCHEM INC.  
XX  
XX Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;  
XX  
XX WPI; 2001-112059/12.  
XX  
XX Modifying and attaching therapeutic peptides to albumin prevents  
XX peptidase degradation, useful for increasing length of in vivo activity.  
XX  
XX Disclosure; Page 294; 733pp; English.

XX The present invention describes a modified therapeutic peptide (I)  
XX comprising a therapeutically active amino acid region (III) and a  
XX reactive group (II) (e.g. succinimidy and maleimido groups) attached to  
XX bonds with amino/hydroxyl/thiol groups on blood components to form a  
XX peptidase stabilised therapeutic peptide composed of 3-50 amino acids.  
XX (I) are useful for modifying therapeutic peptides e.g. hormones, growth  
XX factors and neurotransmitters, to protect them from peptidase activity in  
XX vivo for the treatment of various disorders. Endogenous therapeutic  
XX peptides are not suitable as drug candidates as they require frequent  
XX administration due to rapid degradation by peptidases in the body.  
XX Modifying and attaching therapeutic peptides to albumin prevents or  
XX reduces the action of peptidases to increase length of activity (half  
XX life) and specificity as bonding to large molecules decreases  
XX intracellular uptake and interference with physiological processes.  
XX AAB90829 to AAB92441 represent peptides which can be used in the  
XX exemplification of the present invention

XX SQ Sequence 33 AA;

Query Match 100.0%; Score 50; DB 4; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
| | | | | | | | |  
Db 3 WLDGSGVTGS 11

RESULT 7  
AAU77907  
ID AAU77907 standard; peptide; 33 AA.  
XX  
XX AAU77907;  
XX  
XX 05-JUN-2002 (first entry)  
XX Human PTHrP residues 107-139, useful as PHEX substrate.  
XX  
XX Human; bone-related disorder; osteogenesis; secPHEX; endopeptidase;  
XX phosphate regulating gene; osteocalcin; teeth; bone mass; bone growth;  
XX osteopenia; osteoporosis; rickets; X-linked hypophosphataemic rickets;  
XX orthopaedic; osteopathic; dental intervention; PTHrP; PHEX substrate.  
XX  
XX Homo sapiens.  
XX  
XX Key Location/Qualifiers  
XX Cleavage-site 6..7 /label= secPHEX\_cleavage\_site  
XX Cleavage-site 21..22 /label= secPHEX\_cleavage\_site  
XX Cleavage-site 30..31 /label= secPHEX\_cleavage\_site  
XX  
XX WO200215918-A2.  
XX  
XX 28-FEB-2002.  
XX  
XX 23-AUG-2001; 2001WO-CA001220.  
XX  
XX 23-AUG-2000; 2000US-0227012P.  
XX  
XX (UYMO-) UNIV MONTREAL.  
XX  
XX Boileau G;  
XX  
XX WPI; 2002-280858/32.  
XX  
XX Preventing or treating bone-related disorder or condition requiring  
XX osteogenesis in mammals, by administering secPHEX or its mutant, a  
XX substance that binds to osteocalcin or antibody specific to osteocalcin.  
XX  
XX Disclosure; Fig 4; 52pp; English.

XX The present invention relates to a method for preventing or treating a  
XX bone-related disorder or condition that involves osteogenesis in mammals.  
XX The method comprises administering secPHEX (a phosphate regulating gene  
XX with homologues to Endopeptidases on the X chromosome), secPHEX581v, a  
XX substance capable of binding to osteocalcin, or an antibody specific to  
XX osteocalcin. PHEX activity can be increased by inhibiting osteocalcin.  
XX Since PHEX is generally associated with the growth plane of bone or teeth  
XX and the absence of osteocalcin with increased bone mass, potentiation of  
XX PHEX activity can promote bone growth. The invention also provides  
XX several new substrates for measuring PHEX enzyme activity. The method of  
XX the invention is useful for preventing or treating bone-related  
XX disorders, such as osteopenia, osteoporosis, rickets, X-linked  
XX hypophosphataemic rickets, and conditions such as orthopaedic and dental  
XX intervention. The present peptide sequence representing human PTHrP  
XX residues 107-139 is useful as a PHEX substrate

XX SQ Sequence 33 AA;

Query Match 100.0%; Score 50; DB 5; Length 33;

Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
|||||||  
Db 5 WLDGSGVTGS 13

RESULT 8  
ADK98655  
ID ADK98655 standard; peptide; 33 AA.  
XX AC ADK98655;  
XX DT 20-MAY-2004 (first entry)  
XX DE Parathyroid hormone related protein (PTHrP) related peptide seqid 11.  
XX cytotatic; antiasthmatic; hypotensive; hepatotropic;  
KW antiarteriosclerotic; uropathic; vasotropic;  
KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
KW retinoblastoma; p27kip1;  
KW smooth muscle cell proliferation-associated disorder;  
KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
KW systemic arterial hypertension; atherosclerosis; bladder disease;  
KW vascular restenosis; angioplasty.  
XX OS Homo sapiens.  
XX XX  
XX FN WO2004016151-A2.  
XX PD 26-FEB-2004.  
XX 13-AUG-2003; 2003WO-US025473.  
XX PF  
XX PR 15-AUG-2002; 2002US-0403805P.  
XX XX  
XX PA (OSTE-) OSTEOTROPHIN LLC.  
XX Stewart AF, Fiaschi-Taesch N;  
XX WPI; 2004-192051/18.  
XX  
XX New compound comprising a parathyroid hormone-related protein (PTHrP)  
PT mutant polypeptide, useful for treating or preventing smooth muscle cell  
PT proliferation-associated disorders, such as atherosclerosis or bronchial  
PT asthma.  
XX Claim 46; SEQ ID NO 11; 100pp; English.  
XX The invention describes a compound comprising a parathyroid hormone-  
CC related protein (PTHrP) mutant polypeptide (I). (I) has the following  
CC characteristics: the compound lacks a functional nuclear localisation  
CC signal, or has a functional nuclear localisation signal and one or more  
CC modified amino acids in the region of PTHrP(112-139); overexpressing the  
CC compound in a vascular smooth muscle cell decreases the level of  
CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
CC level of phosphorylated immunoreactive retinoblastoma polypeptide  
CC observed in the absence of the compound; and overexpressing the compound  
CC in a vascular smooth muscle cell increases the level of immunoreactive  
CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1  
CC polypeptide observed in the absence of the compound. (I) is useful for  
CC treating or preventing a smooth muscle cell proliferation-associated  
CC disorder, particularly in humans, such as uterine fibroid tumours,  
CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
CC after angioplasty. (I) is also useful in the manufacture of a medicament  
CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of a human parathyroid hormone related protein  
CC (PTHrP) peptide comprising substitutions that can be introduced to the  
CC PTHrP mutant of the invention.

XX SQ Sequence 33 AA;  
Query Match 100.0%; Score 50; DB 8; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
|||||||  
Db 5 WLDGSGVTGS 13

RESULT 9  
ADK98654  
ID ADK98654 standard; peptide; 33 AA.  
XX AC ADK98654;  
XX DT 20-MAY-2004 (first entry)  
XX DE Parathyroid hormone related protein (PTHrP) related peptide seqid 10.  
XX cytotatic; antiasthmatic; hypotensive; hepatotropic;  
KW antiarteriosclerotic; uropathic; vasotropic;  
KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
KW retinoblastoma; p27kip1;  
KW smooth muscle cell proliferation-associated disorder;  
KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
KW systemic arterial hypertension; atherosclerosis; bladder disease;  
KW vascular restenosis; angioplasty.  
XX OS Homo sapiens.  
XX XX  
XX FN WO2004016151-A2.  
XX PD 26-FEB-2004.  
XX 13-AUG-2003; 2003WO-US025473.  
XX PF  
XX PR 15-AUG-2002; 2002US-0403805P.  
XX XX  
XX PA (OSTE-) OSTEOTROPHIN LLC.  
XX Stewart AF, Fiaschi-Taesch N;  
XX WPI; 2004-192051/18.  
XX  
XX New compound comprising a parathyroid hormone-related protein (PTHrP)  
PT mutant polypeptide, useful for treating or preventing smooth muscle cell  
PT proliferation-associated disorders, such as atherosclerosis or bronchial  
PT asthma.  
XX Claim 46; SEQ ID NO 10; 100pp; English.  
XX The invention describes a compound comprising a parathyroid hormone-  
CC related protein (PTHrP) mutant polypeptide (I). (I) has the following  
CC characteristics: the compound lacks a functional nuclear localisation  
CC signal, or has a functional nuclear localisation signal and one or more  
CC modified amino acids in the region of PTHrP(112-139); overexpressing the  
CC compound in a vascular smooth muscle cell decreases the level of  
CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
CC level of phosphorylated immunoreactive retinoblastoma polypeptide  
CC observed in the absence of the compound; and overexpressing the compound  
CC in a vascular smooth muscle cell increases the level of immunoreactive  
CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1  
CC polypeptide observed in the absence of the compound. (I) is useful for  
CC treating or preventing a smooth muscle cell proliferation-associated  
CC disorder, particularly in humans, such as uterine fibroid tumours,  
CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
CC after angioplasty. (I) is also useful in the manufacture of a medicament

CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of a human parathyroid hormone related protein  
CC (PTHrP) peptide comprising substitutions that can be introduced to the  
CC PTHrP mutant of the invention.

XX SQ Sequence 33 AA;

Query Match 100.0%; Score 50; DB 8; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | |  
Db 5 WLDGVTGS 13

RESULT 10  
ADK98658  
ID ADK98658 standard; protein; 33 AA.

XX AC ADK98658;

XX DT 20-MAY-2004 (first entry)

XX DE Human parathyroid hormone related protein (PTHrP) C-terminus.

XX KW cytotatic; antiasthmatic; hypotensive; hepatotropic;  
XX KW antiarteriosclerotic; uropathic; vasotropic;  
XX KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
XX KW retinoblastoma; p27kip1;  
XX KW smooth muscle cell proliferation-associated disorder;  
XX KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
XX KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
XX KW systemic arterial hypertension; atherosclerosis; bladder disease;  
XX KW vascular restenosis; angioplasty.

XX OS Homo sapiens.

XX PN WO2004016151-A2.

XX PD 26-FEB-2004.

XX PF 13-AUG-2003; 2003WO-US025473.

XX PR 15-AUG-2002; 2002US-0403805P.

XX PA (OSTE-) OSTEOTROPHIN LLC.

XX PI Stewart AF, Fiaschi-Taesch N;

XX DR WPI; 2004-192051/18.

XX PT New compound comprising a parathyroid hormone-related protein (PTHrP)  
XX mutant polypeptide, useful for treating or preventing smooth muscle cell  
XX proliferation-associated disorders, such as atherosclerosis or bronchial  
XX asthma.

XX PS Disclosure; SEQ ID NO 4; 100pp; English.

XX CC The invention describes a compound comprising a parathyroid hormone-  
XX related protein (PTHrP) mutant polypeptide (I). (I) has the following  
XX characteristics: the compound lacks a functional nuclear localisation  
XX signal, or has a functional nuclear localisation signal and one or more  
XX modified amino acids in the region of PTHrP(112-139); overexpressing the  
XX compound in a vascular smooth muscle cell decreases the level of  
XX phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
XX level of phosphorylated immunoreactive retinoblastoma polypeptide  
XX observed in the absence of the compound; and overexpressing the compound  
XX in a vascular smooth muscle cell increases the level of immunoreactive  
XX p27kip1 polypeptide compared to the level of immunoreactive  
XX p27kip1 polypeptide observed in the absence of the compound. (I) is useful for  
XX treating or preventing a smooth muscle cell proliferation-associated  
XX disorder, particularly in humans, such as uterine fibroid tumours,

CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
CC after angioplasty. (I) is also useful in the manufacture of a medicament  
CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of a human parathyroid hormone related protein  
CC (PTHrP) C-terminus.

XX SQ Sequence 33 AA;

Query Match 100.0%; Score 50; DB 8; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | |  
Db 5 WLDGVTGS 13

RESULT 11

ADK98656

ID ADK98656 standard; peptide; 33 AA.

XX AC ADK98656;

XX DT 20-MAY-2004 (first entry)

XX DE Parathyroid hormone related protein (PTHrP) related peptide seqid 12.

XX KW cytotatic; antiasthmatic; hypotensive; hepatotropic;  
XX KW antiarteriosclerotic; uropathic; vasotropic;  
XX KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
XX KW retinoblastoma; p27kip1;  
XX KW smooth muscle cell proliferation-associated disorder;  
XX KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
XX KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
XX KW systemic arterial hypertension; atherosclerosis; bladder disease;  
XX KW vascular restenosis; angioplasty.

XX OS Homo sapiens.

XX PN WO2004016151-A2.

XX PD 26-FEB-2004.

XX PF 13-AUG-2003; 2003WO-US025473.

XX PR 15-AUG-2002; 2002US-0403805P.

XX PA (OSTE-) OSTEOTROPHIN LLC.

XX PI Stewart AF, Fiaschi-Taesch N;

XX DR WPI; 2004-192051/18.

XX PT New compound comprising a parathyroid hormone-related protein (PTHrP)  
XX mutant polypeptide, useful for treating or preventing smooth muscle cell  
XX proliferation-associated disorders, such as atherosclerosis or bronchial  
XX asthma.

XX PS Claim 46; SEQ ID NO 12; 100pp; English.

XX CC The invention describes a compound comprising a parathyroid hormone-  
XX related protein (PTHrP) mutant polypeptide (I). (I) has the following  
XX characteristics: the compound lacks a functional nuclear localisation  
XX signal, or has a functional nuclear localisation signal and one or more  
XX modified amino acids in the region of PTHrP(112-139); overexpressing the  
XX compound in a vascular smooth muscle cell decreases the level of  
XX phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
XX level of phosphorylated immunoreactive retinoblastoma polypeptide  
XX observed in the absence of the compound; and overexpressing the compound  
XX in a vascular smooth muscle cell increases the level of immunoreactive  
XX p27kip1 polypeptide compared to the level of immunoreactive p27kip1

polypeptide observed in the absence of the compound. (I) is useful for treating or preventing a smooth muscle cell proliferation-associated disorder, particularly in humans, such as uterine fibroid tumours, prostatic hypertrophy, bronchial asthma, portal hypertension in cirrhosis, pulmonary arterial hypertension, systemic arterial hypertension, atherosclerosis, bladder disease, and vascular restenosis after angioplasty. (II) is also useful in the manufacture of a medicament for treating smooth muscle cell proliferation-associated disorders. This is the amino acid sequence of a human parathyroid hormone related protein (PTHrP) peptide comprising substitutions that can be introduced to the PTHrP mutant of the invention.

XX SQ Sequence 33 AA;

Query Match 100.0%; Score 50; DB 8; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.088;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9

DB 5 WLDGVTGS 13

RESULT 12

AAAR26411  
ID AAR26411 standard; peptide; 34 AA.

AC AAR26411;

XX 10-MAR-2003 (revised)

DT 03-MAR-1993 (first entry)

XX C-terminal PTHrP peptide fragment.

DE Parathyroid hormone related protein; immunoassay; humoral;

XX hypercalcaemia; malignancy; HHM; diagnosis.

OS Homo sapiens.

XX JP04244100-A.

FN 01-SEP-1992.

XX 30-JAN-1991; 91JP-00027740.

XX 30-JAN-1991; 91JP-00027740.

XX (DARA ) DAIICHI RADIOISOTOPE KENKYUSHO.

XX WPI; 1992-337754/41.

XX Para:thyroid hormone related protein immunoassay - comprise reaction with antibody recognising protein C terminal, and detecting antibody-antigen reaction.

XX Disclosure; Page 2; 8pp; Japanese.

XX The peptide shows the C-terminal sequence of parathyroid hormone related protein. An antibody raised against this peptide may be used in an immunoassay to detect levels of PTHrP in a sample. The assay may be performed on healthy people or on those suffering from humoral hypercalcaemia of malignancy (HHM). Th assay value from HHM is higher, thus providing a means of diagnosis of HHM. (Updated on 10-MAR-2003 to add missing OS field.)

XX SQ Sequence 34 AA;

Query Match 100.0%; Score 50; DB 2; Length 34;  
Best Local Similarity 100.0%; Pred. No. 0.091;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9

DB 5 WLDGVTGS 13

Db 4 WLDGVTGS 12

RESULT 13

AAAR41539  
ID AAR41539 standard; protein; 56 AA.

XX AAR41539;

DT 13-OCT-1993 (first entry)

XX Synthetic PTHLP gene amino acids 86-141.

XX Parathyroid hormone-like protein; PTH-like protein.

OS Synthetic.

XX US5217896-A.

XX 08-JUN-1993.

XX 30-DEC-1988; 88US-00292263.

XX 30-DEC-1988; 88US-00292263.

XX (ONCO-) ONCOGENE SCI INC.

XX Kramer SP, Valenzuela DM, Reynolds FH, Sorvillo JM;

XX WPI; 1993-196249/24.

XX N-PSDB; AAQ43596.

XX Monoclonal antibody produced by hybridomas 212-10.7, 199-999 or 199-278 - binds to parathyroid hormone-like protein, for detecting PTHLP and diagnosing and treating humoral hypercalcaemia of malignancy.

XX Example; Fig 1C; 20pp; English.

XX The sequence is that of parathyroid hormone-like protein (PTHLP) amino acids 86-141 which are encoded by a 183 bp PTHLP BamHI-SalI fragment, segment "c", which was used in the construction of a synthetic PTHLP gene

XX SQ Sequence 56 AA;

Query Match 100.0%; Score 50; DB 2; Length 56;

Best Local Similarity 100.0%; Pred. No. 0.16;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9

DB 26 WLDGVTGS 34

RESULT 14

AAAR06980  
ID AAR06980 standard; protein; 79 AA.

XX AAR06980;

DT 15-JAN-1991 (first entry)

XX PTHrP(B) polypeptide which inhibits parathyroid hormone related peptide (PTHrP) activity.

XX Hypercalcaemia; osteoporosis; calcium metabolism.

XX Homo sapiens.

XX JP02207099-A.

XX 16-AUG-1990.

XX 07-FEB-1989; 89JP-00028023.

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XX 07-FEB-1989; 89JP-00028023.
XX (TOFU) TONEN CORP.
XX WPI; 1990-294318/39.
XX N-ESDB; AAO05346.
XX
XX Prepn. of pthrp related peptide for e.g. osteoporosis treatment - by
XX transforming and cultivating E.coli with required vector.
XX
XX Disclosure; Fig 3; llpp; Japanese.
XX
XX Product is from a portion of the pThrp gene, carried on plasmid
XX pUCpThrp(B) used to transform an E.coli expression system. The product
XX may be used for treatment of hypercalcemia, osteoporosis and other
XX abnormalities of the calcium metabolism
XX
XX Sequence 79 AA;
XX
XX Query Match 100.0%; Score 50; DB 2; Length 79;
XX Best Local Similarity 100.0%; Pred. No. 0.23;
XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX Qy 1 WLDSGVTGS 9
XX |||||
XX 49 WLDSGVTGS 57
XX
XX RESULT 15
XX AAEE23744
XX ID AAEE23744 standard; protein; 133 AA.
XX
XX AC AAEE23744;
XX
XX 10-SEP-2002 (first entry)
XX
XX Human parathyroid related peptide, PTHrP (7-139).
XX
XX Human parathyroid hormone; hPTH; PTH-related peptide; PTHrP; eczema;
XX hyperproliferative skin disorder; psoriasis; ichthyosis; skin cancer;
XX acne; actinic keratosis; alopecia; gene therapy.
XX
XX Homo sapiens.
XX
XX WO200228420-A2.
XX
XX 11-APR-2002.
XX
XX 05-OCT-2001; 2001WO-US031082.
XX
XX 06-OCT-2000; 2000US-0238134P.
XX
XX (HOLI/) HOLICK M F.
XX
XX Holick MF;
XX
XX WPI; 2002-454495/48.
XX N-PSDB; AAD37997.
XX
XX Regulating mammalian skin or hair cell proliferation and differentiation
XX by administering nucleic acids encoding peptides derived from N-terminal
XX region of human parathyroid hormone (hPTH) or hPTH-related protein.
XX
XX Claim 35; Fig 44; 56pp; English.
XX
XX The invention relates to a method for regulating proliferation or
XX enhancing differentiation of mammalian skin or hair cell. The method
XX involves administering nucleic acids encoding peptides derived from N-
XX terminal region of human parathyroid hormone (hPTH) or hPTH-related
XX peptide (PTHrP). The method is used for inhibiting hyperproliferative
XX skin disorders such as psoriasis, ichthyosis, eczema, acne, actinic
XX keratosis, skin cancer, for inhibiting hair growth or preventing hair

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CC regrowth. It is useful for stimulating cell growth, rejuvenating aged
CC skin, preventing skin wrinkles, treating skin wrinkles, enhancing wound
CC healing, stimulating hair growth, maintaining hair growth, treating or
CC preventing female or male pattern baldness, for treating chemotherapy
CC induced alopecia and also for stimulating epidermal cell growth or hair
CC follicle cell growth. The method is also used in gene therapy. The
CC present sequence is hPTHrP peptide
XX
XX SQ Sequence 133 AA;
XX
XX Query Match 100.0%; Score 50; DB 5; Length 133;
XX Best Local Similarity 100.0%; Pred. No. 0.39;
XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX Qy 1 WLDSGVTGS 9
XX |||||
XX 105 WLDSGVTGS 113
XX
XX Search completed: December 2, 2005, 23:27:51
XX Job time : 25.8764 secs

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## OM protein - protein search, using sw model

Run on: December 2, 2005, 23:04:13 ; Search time 3.94382 Seconds  
(without alignments)  
219.572 Million cell updates/sec

Title: US-10-691-125-4

Perfect score: 50

Sequence: 1 WLDGVTGS 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 80:\*

1: piri:\*

2: pir2:\*

3: pir3:\*

4: pir4:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	50	100.0	177	1 PTHU2L	parathyroid hormon
2	50	100.0	209	1 PTHU3L	parathyroid hormon
3	39	78.0	1044	2 H69049	isoleucine-trna 11
4	39	78.0	1045	1 SYEXI	isoleucine-trna 11
5	38	76.0	282	2 T13218	hypothetical prote
6	38	76.0	524	2 G86834	alpha-amylase (EC
7	38	76.0	949	2 D82293	isoleucyl-trna syn
8	37	74.0	579	2 J70494	alpha-glucosidase
9	37	74.0	732	2 A70938	primosomal protein
10	37	74.0	732	2 F91236	primosomal protein
11	37	74.0	732	2 AD0014	primosomal protein
12	37	74.0	732	2 F86083	primosomal protein
13	37	74.0	732	2 A35505	primosomal replica
14	37	74.0	1218	2 S38182	probable transport
15	36	72.0	285	2 A71553	hypothetical prote
16	36	72.0	287	2 F81705	conserved hypothet
17	36	72.0	314	2 F70505	probable trna delt
18	36	72.0	413	2 A86814	phosphoribosylamin
19	36	72.0	423	2 J77722	cellulase (EC 3.2.
20	36	72.0	490	2 T46182	glucosyltransferas
21	36	72.0	516	2 G70149	hypothetical prote
22	36	72.0	544	2 G90524	hypothetical prote
23	36	72.0	561	2 H69755	oligo-1,6-glucosid
24	36	72.0	562	2 A41707	oligo-1,6-glucosid
25	36	72.0	570	2 A45249	alpha-glucosidase
26	36	72.0	599	2 S55363	maltase-like prote
27	36	72.0	720	2 G64062	primosomal replica
28	35	70.0	176	1 S10202	parathyroid hormon
29	35	70.0	315	2 A36944	outer membrane pro

## RESULT 1

## PTHU2L

parathyroid hormone-related protein precursor, splice form 2 - human

N/Alternate names: parathyroid hormone-like protein

N/Contains: parathyroid hormone-related protein, splice form 1; parathyroid hormone-rela-

C/Species: Homo sapiens (man)

C/Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text change 09-Jul-2004

C/Accession: A33360; B33360; A28120; A94295; B94295; A36166; A91606; A28034; A36512; J50

R/Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.

J. Biol. Chem. 264, 7720-7725, 1989

A/Title: Characterization of the human parathyroid hormone-like peptide gene. Functional

A/Reference number: A33360; MUID:89214227; PMID:2708388

A/Accession: A33360

A/Molecule type: DNA

A/Residues: 1-175 &lt;YAS&gt;

A/Cross-references: UNIPARC:UPI000002B1CC; UNIPARC:UPI000002B1CC; GB:M24349; GB:J04710; NID:G191

A/Accession: B33360

A/Molecule type: DNA

A/Residues: 176-177 &lt;YAS2&gt;

A/Cross-references: UNIPARC:UPI00001734EA; GB:J04710

R/Mangin, M.; Webb, A.C.; Dreyer, B.E.; Posillico, J.T.; Ikeda, K.; Weir, E.C.; Stewart,

Proc. Natl. Acad. Sci. U.S.A. 85, 597-601, 1988

A/Title: Identification of a cDNA encoding a parathyroid hormone-like peptide from a hum

A/Reference number: A28120; MUID:88124888; PMID:2829195

A/Accession: A28120

A/Molecule type: mRNA

A/Residues: 1-177 &lt;MAN&gt;

A/Cross-references: UNIPARC:UPI0000047E25; EMBL:J03580

R/Suva, L.J.; Winslow, G.A.; Wettenthal, R.E.H.; Hammonds, R.G.; Moseley, J.M.; Diefenba-

Science 237, 893-896, 1987

A/Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; cl.

A/Reference number: A94295; MUID:87292119; PMID:3616618

A/Accession: A94295

A/Molecule type: mRNA

A/Residues: 1-177 &lt;SU1&gt;

A/Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:G190725; PIDN:AAA60221.1; PID:.

A/Accession: B94295

A/Molecule type: protein

A/Residues: 37-70, 'X', 72-84, 'X', 86, 103-115 &lt;SU2&gt;

A/Cross-references: UNIPARC:UPI00001734EB; UNIPARC:UPI00001734EC

R/Thiede, M.A.; Strewler, G.J.; Nissenson, R.A.; Rosenblatt, M.; Rodan, G.A.

Proc. Natl. Acad. Sci. U.S.A. 85, 4605-4609, 1988

A/Title: Human renal carcinoma expresses two messages encoding a parathyroid hormone-like

A/Reference number: A36166; MUID:88262996; PMID:3230897

A/Accession: A36166

A/Molecule type: mRNA

A/Residues: 1-175 &lt;THI&gt;

A/Cross-references: UNIPARC:UPI000002B1CC; GB:J03802; NID:G190717; PIDN:AAA60218.1; PID:

R/Suva, L.J.; Mather, K.A.; Gillespie, M.T.; Webb, G.C.; Ng, K.W.; Winslow, G.A.; Wood,

Gene 77, 95-105, 1989

A/Title: Structure of the 5' flanking region of the gene encoding human parathyroid-horm

A/Reference number: A91606; MUID:89306685; PMID:2744490





hypothetical protein R282 - Lactobacillus phage phi-gle  
C:Species: Lactobacillus phage phi-gle  
C>Date: 13-Aug-1999 #sequence\_revision 13-Aug-1999 #text\_change 21-Jul-2000  
C:Accession: T13218  
R:Kodaira, K.I.; Oki, M.; Kakikawa, M.; Watanabe, N.; Hirakawa, M.; Yamada, K.; Taketo, Gene 187, 45-53, 1997  
A>Title: Genome structure of the Lactobacillus temperate phage phi gle: the whole genome  
A:Reference number: 217631; MUID:97225795; PMID:9073065  
C:Accession: T13218  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-282 <KOD>  
A:Cross-references: UNIPARC:UPI000009B55F; EMBL:X98106; NID:gl926320; PIDN:CAA66747.1; F  
C:Genetics:  
A:Note: Rorf282

Query Match 76.0%; Score 38; DB 2; Length 282;  
Best Local Similarity 77.8%; Pred. No. 12;  
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | |  
Db 122 WLDGVTGS 130

RESULT 6  
G86834  
alpha-amylase (EC 3.2.1.1) [imported] - Lactococcus lactis subsp. lactis (strain IL1403)  
C:Species: Lactococcus lactis subsp. lactis  
C>Date: 23-Mar-2001 #sequence\_revision 23-Mar-2001 #text\_change 09-Jul-2004  
C:Accession: G86834  
R:Boilotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Ehrlich Genome Res. 11, 731-753, 2001  
A>Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis s  
A:Reference number: A86625; MUID:21235186; PMID:11337471  
A:Accession: G86834  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-524 <STO>  
A:Cross-references: UNIPROT:Q9CF02; UNIPARC:UPI000000C6AC6; GB:AE005176; PID:gl2724693; F  
C:Experimental source: strain IL1403  
C:Genetics:  
A:Gene: amyV  
C:Superfamily: alpha-glucosidase  
C:Keywords: glycosidase; hydrolase

Query Match 76.0%; Score 38; DB 2; Length 524;  
Best Local Similarity 75.0%; Pred. No. 25;  
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8  
| | | | |  
Db 217 WLDKGVSG 224

RESULT 7  
D82293  
Isotocyl-rRNA synthetase VC0682 [imported] - Vibrio cholerae (strain N16961 serogroup C  
C:Species: Vibrio cholerae  
C>Date: 18-Aug-2000 #sequence\_revision 20-Aug-2000 #text\_change 09-Jul-2004  
C:Accession: D82293  
R:Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J.; Chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers, F  
1, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.  
Nature 406, 477-483, 2000  
A>Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.  
A:Reference number: A82035; MUID:20406833; PMID:10952301  
C:Accession: D82293  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-949 <HEI>  
A:Cross-references: UNIPROT:Q9KU47; UNIPARC:UPI000000C2D74; GB:AE004154; GB:AE003852; NID  
A:Experimental source: serogroup O1, strain N16961; biotype El Tor

C:Genetics:  
A:Gene: VC0682  
A:Map position: 1  
C:Superfamily: isoleucine-tRNA ligase

Query Match 76.0%; Score 38; DB 2; Length 949;  
Best Local Similarity 77.8%; Pred. No. 48;  
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
| | | | |  
Db 540 WFDGVTGS 548

RESULT 8  
JT0494  
alpha-glucosidase homolog precursor - yellow fever mosquito  
N:Alternate names: maltase homolog  
C:Species: Aedes aegypti (yellow fever mosquito)  
C>Date: 31-Mar-1992 #sequence\_revision 31-Mar-1992 #text\_change 09-Jul-2004  
C:Accession: JT0494  
R:James, A.A.; Blackmer, K.; Racioppi, J.V.  
Gene 75, 73-83, 1989  
A>Title: A salivary gland-specific, maltase-like gene of the vector mosquito, Aedes aegy  
A:Reference number: JT0494; MUID:89252923; PMID:2470653  
A:Accession: JT0494  
A:Molecule type: mRNA  
A:Residues: 1-579 <JAM>  
A:Cross-references: UNIPROT:P13080; UNIPARC:UPI000012B565; GB:M30442; GB:M22322; GB:M223  
A:Note: the authors translated the codon CAA for residue 569 as Lys  
C:Genetics:  
A:Gene: Mali  
C:Superfamily: alpha-glucosidase; alpha-amylase core homology  
C:Keywords: glycoprotein  
F:1-18/Domain: signal sequence #status predicted <SIG>  
F:13-579/Product: alpha-glucosidase homolog #status predicted <MAT>  
F:187-359/Domain: alpha-amylase core homology <AMY>  
F:118,151,282,304,325,401/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 74.0%; Score 37; DB 2; Length 579;  
Best Local Similarity 75.0%; Pred. No. 43;  
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8  
| | | | |  
Db 208 WLDKGVSG 215

RESULT 9  
AF0938  
Primosomal protein replication factor [imported] - Salmonella enterica subsp. enterica s  
C:Species: Salmonella enterica subsp. enterica serovar Typhi  
A:Note: this species has also been called Salmonella typhi  
C>Date: 09-Nov-2001 #sequence\_revision 09-Nov-2001 #text\_change 18-Nov-2002  
C:Accession: AF0938  
R:Parkhill, J.; Dougan, G.; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher, th, T.; Conerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar, S.; Moule, S.; O'Gaora, P.  
Nature 413, 848-852, 2001  
A:Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; A:Title: Complete genome sequence of a multiple drug resistant Salmonella enterica serov  
A:Reference number: AB0502; MUID:21534947; PMID:11677608  
C:Accession: AF0938  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-732 <PAR>  
A:Cross-references: UNIPARC:UPI000005A607; GB:AL513382; PIDN:CAD09528.1; PID:gl6504644;  
C:Genetics:  
A:Gene: STY3775

Query Match 74.0%; Score 37; DB 2; Length 732;  
Best Local Similarity 77.8%; Pred. No. 56;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy      1 WLDGSGVTGS 9
      || :|||||
Db      220 WLLAGVTGS 228

RESULT 10
F91236
Primosomal protein N' [imported] - Escherichia coli (strain O157:H7, substrain RIMD 0509
C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
R;Accession: F91236
R;Hayashi, T.; Makino, K.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G.
gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.
DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gene
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: F91236
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-732 <HAY>
A;Cross-references: UNIPROT:Q8X779; UNIPARC:UPI000000D0AAA; GB:BA000007; PIDN:BA038285.1;
A;Experimental source: strain O157:H7, substrain RIMD 050952
C;Genetics:
A;Gene: ECs4862

Query Match      74.0%; Score 37; DB 2; Length 732;
Best Local Similarity 77.8%; Pred. No. 56;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
      || :|||||
Db      220 WLLAGVTGS 228

RESULT 11
AD0014
Primosomal protein n' [imported] - Yersinia pestis (strain CO92)
C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Jul-2004
R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B.
deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.;
il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrall,
Nature 413, 523-527, 2001
A;Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A;Reference number: AB0001; MUID:21470413; PMID:11586360
A;Accession: AD0014
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-732 <KUR>
A;Cross-references: UNIPROT:Q8ZJ1; UNIPARC:UPI000000DC7B9; GB:AL590842; PIDN:CAC88974.1;
C;Genetics:
A;Gene: priA

Query Match      74.0%; Score 37; DB 2; Length 732;
Best Local Similarity 77.8%; Pred. No. 56;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
      || :|||||
Db      220 WLLAGVTGS 228

RESULT 12
F86083
Primosomal protein N' [imported] - Escherichia coli (strain O157:H7, substrain EDL933)
C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 09-Jul-2004
R;Accession: F86083
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew
iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimailanta, E.; Potamousis, K.; Apodaca,
Nature 409, 529-533, 2001
```

```
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: F86083
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-732 <STO>
A;Cross-references: UNIPROT:Q8X779; UNIPARC:UPI00000D0AAA; GB:AE005174; NID:gl2518841; P
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: priA

Query Match      74.0%; Score 37; DB 2; Length 732;
Best Local Similarity 77.8%; Pred. No. 56;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
      || :|||||
Db      220 WLLAGVTGS 228

RESULT 13
A35505
Primosomal replication factor Y - Escherichia coli (strain K-12)
N;Alternate names: protein n'
C;Species: Escherichia coli
C;Date: 09-Nov-1990 #sequence_revision 19-May-1995 #text_change 09-Jul-2004
R;Plunkett III, G.; Burland, V.; Daniels, D.L.; Blattner, F.R.
Nucleic Acids Res. 21, 3391-3398, 1993
A;Title: Analysis of the Escherichia coli genome. III. DNA sequence of the region from 8'
A;Reference number: S40802; MUID:93347969; PMID:8346018
A;Accession: S40878
A;Molecule type: DNA
A;Residues: 1-732 <PLU>
A;Cross-references: UNIPROT:PI7888; UNIPARC:UPI000016F40D; GB:D00616; GB:M33881; NID:g216619; PIDN:BAA00.
R;Nurse, P.; DiGate, R.J.; Zavitz, K.H.; Marians, K.J.
Proc. Natl. Acad. Sci. U.S.A. 87, 4615-4619, 1990
A;Title: Molecular cloning and DNA sequence analysis of Escherichia coli priA, the gene
A;Reference number: A35505; MUID:90280426; PMID:2162049
A;Accession: A35505
A;Molecule type: DNA
A;Residues: 1-648,'V',650-732 <NUR>
A;Cross-references: UNIPARC:UPI000016F40D; GB:D00616; GB:M33881; NID:g216619; PIDN:BAA00.
R;Lee, E.H.; Masai, H.; Allen Jr., G.C.; Kornberg, A.
Proc. Natl. Acad. Sci. U.S.A. 87, 4620-4624, 1990
A;Title: The priA gene encoding the primosomal replicative n' protein of Escherichia coli
A;Reference number: A35506; MUID:90280427; PMID:2162050
A;Accession: A35506
A;Molecule type: DNA
A;Residues: 1-155,'R',157-620,'R',622-732 <LEE>
A;Cross-references: UNIPARC:UPI00001321BA; GB:M33293; NID:gl47344; PIDN:AAA24416.1; PID:
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Col
.A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: B65200
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-732 <BLAT>
A;Cross-references: UNIPARC:UPI0000168206; GB:AE000467; GB:U000096; NID:gl790356; PIDN:AA
A;Experimental source: strain K-12, substrain MG1655
C;Genetics:
A;Gene: priA
A;Map position: 88.5 min
A;Keywords: ATP; DNA binding; nucleotide binding; P-loop
P;224-231/Region: nucleotide-binding motif A (P-loop)
P;316-321/Region: nucleotide-binding motif B
P;320-323/Region: DEHX motif

Query Match      74.0%; Score 37; DB 2; Length 732;
Best Local Similarity 77.8%; Pred. No. 56;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
```

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Qy      1 WLDGVTGS 9
      || :|||||
Db      220 WLLAGVTGS 228

RESULT 14
S38182
probable transport protein YKR103w - yeast (Saccharomyces cerevisiae)
N;Alternate names: multidrug resistance protein homolog YKR103w
C;Species: Saccharomyces cerevisiae
C;Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 05-Oct-2004
C;Accession: S38182
R;Gailion, L.; Dujon, B.
submitted to the Protein Sequence Database, March 1994
A;Reference number: S38175
A;Accession: S38182
A;Molecule type: DNA
A;Residues: 1-1218 <GAI>
A;Cross-references: UNIPARC:UPI000016038C; EMBL:Z28328; NID:9486610; PIDN:CAAG2183.1; PI
A;Experimental source: strain S288C
C;Genetics:
A;Cross-references: SGD:S0001811
A;Map position: 11R
C;Keywords: ATP; nucleotide binding; P-loop; transmembrane protein
F;669-868/Domain: ATP-binding cassette homology <ABC>
F;686-693/Region: nucleotide-binding motif A (P-loop)
F;692/Binding site: ATP (Lys) #status predicted

Query Match      74.0%; Score 37; DB 2; Length 1218;
Best Local Similarity 66.7%; Pred. No. 97;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy      1 WLDGVTGS 9
      |||:|:|
Db      985 WLDGTSGS 993

RESULT 15
A71553
hypothetical protein CT144 - Chlamydia trachomatis (serotype D, strain UW3/Cx)
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 09-Jul-2004
C;Accession: A71553
R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell,
Science 282, 754-759, 1998
A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia tra
A;Reference number: A71570; MUID:99000809; PMID:9784136
A;Accession: A71553
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-285 <ARN>
A;Cross-references: UNIPROT:O84146; UNIPARC:UPI00000C0AF4; GB:AE001287; GB:AE001273; NID
A;Experimental source: serotype D, strain UW-3/Cx
C;Genetics:
A;Gene: CT144

Query Match      72.0%; Score 36; DB 2; Length 285;
Best Local Similarity 75.0%; Pred. No. 31;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1 WLDGVTG 8
      |||:|
Db      202 WLDNGVGG 209

Search completed: December 2, 2005, 23:29:21
Job time : 6.94382 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:38:37 ; Search time 25.0281 Seconds  
(without alignments)  
253.705 Million cell updates/sec

Title: US-10-691-125-4  
Perfect score: 50  
Sequence: 1 WLDGSGVTGS 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : UniProt\_05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	50	100.0	175	2	Q53XY9 HUMAN
2	50	100.0	177	1	P12272 homo sapien
3	50	100.0	177	2	Q6FH74 HUMAN
4	50	100.0	202	2	Q9BD23_BACIT
5	42	84.0	553	2	Q4M53_BACCE
6	42	84.0	553	2	Q81H24_BACCR
7	42	84.0	553	2	Q73DL2_BACCI
8	42	84.0	553	2	Q81V68_BACAN
9	42	84.0	553	2	Q6HN11_BACHK
10	42	84.0	553	2	Q83G13_BACCC
11	41	82.0	272	2	Q7UQJ1_RHOBA
12	41	82.0	954	2	Q4P7P7_USTMA
13	40	80.0	177	2	Q659U2_PHOVI
14	40	80.0	177	2	Q659U3_HALGR
15	40	80.0	188	2	Q5C704_SCHJA
16	40	80.0	216	2	Q8XWJ9_RALSO
17	40	80.0	273	2	Q4SPD5_TETNG
18	40	80.0	281	2	Q4JSD8_CORJK
19	40	80.0	402	2	Q7NEY8_GLOVI
20	40	80.0	419	2	Q93R71_STRSU
21	40	80.0	419	2	Q8DNJ7_STRMU
22	40	80.0	678	2	Q8GQZ0_9GAMM
23	40	80.0	1675	2	Q98SW4_BRARE
24	39	78.0	103	2	Q5F161_LACAC
25	39	78.0	166	2	Q63L79_BURPS
26	39	78.0	230	2	Q6R3H4_9RHIZ
27	39	78.0	293	2	Q5WAX1_BACSK
28	39	78.0	388	2	Q2CNY3_PASMU
29	39	78.0	1043	1	SYI_METTH
30	39	78.0	1044	1	SYI_METTM
31	38	76.0	155	2	Q6ZSE9_HUMAN

32 Q6BA75\_9PROT 204 2 Q6BA75\_9PROT  
33 Q51718\_pseudomonas 278 1 PHAZ\_PSEFL  
34 Q84C08\_pseudomonas 278 2 Q84C08\_PSEAC  
35 Q03939\_bacterioph 282 2 Q03939\_9CAUD  
36 Q4KT50\_9NUCL 283 2 Q4KT50\_9NUCL  
37 Q88TK3\_LACPL 459 2 Q88TK3\_LACPL  
38 Q67TS2\_ORYSA 497 2 Q67TS2\_ORYSA  
39 Q9CF02\_LACLA 524 2 Q9CF02\_LACLA  
40 Q6UEB8\_ASPPA 568 2 Q6UEB8\_ASPPA  
41 Q8KR84\_9ENTR 598 2 Q8KR84\_9ENTR  
42 Q6XNK6\_9ENTR 598 2 Q6XNK6\_9ENTR  
43 Q4L2Q1\_klebsiella 598 2 Q4L2Q1\_klebsiella  
44 Q9A164\_9ENTR 600 2 Q9A164\_9ENTR  
45 Q4J3V8\_AZOVI 600 2 Q4J3V8\_AZOVI

#### ALIGNMENTS

##### RESULT 1

ID Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.  
AC Q53XY9;  
DT 13-SEP-2005 (Tremblrel. 31, Created)  
DT 13-SEP-2005 (Tremblrel. 31, Last sequence update)  
DT 13-SEP-2005 (Tremblrel. 31, Last annotation update)  
DE Parathyroid hormone-like hormone.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Kaline N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,  
RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,  
RA Phelan M., Farmer A.;  
RT "Cloning of human full-length CDSs in BD Creator(TM) System Donor  
vector."  
RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.  
DR EMBL; BT007178; AAP35842.1; -; mRNA  
SQ SEQUENCE 175 AA; 19900 MW; 4FE954C51DB3E7D CRC64;

Query Match 100.0%; Score 50; DB 2; Length 175;  
Best Local Similarity 100.0%; Pred. No. 0.31;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
| | | | | | | | | |  
Db 147 WLDGSGVTGS 155

##### RESULT 2

ID PTHR\_HUMAN STANDARD; PRT; 177 AA.  
AC P12272; Q15251;  
DT 01-OCT-1989 (Rel. 12, Created)  
DT 01-OCT-1989 (Rel. 12, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTHrP)  
DE [Contains: PTHrP(1-36); PTHrP(38-94); Osteostatin (PTHrP(107-139))].  
GN Name=PTHrP; Synonyms=PTHRP;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.  
RX MEDLINE=87292119; PubMed=3616618;  
RA Suva L.J., Winslow G.A., Wettenthal R.E.H., Hammonds R.G.,  
RA Moseley J.M., Diefenbach-Jagger H., Rodda C.P., Kemp B.E.,  
RA Rodriguez H., Chen E.Y., Hudson P.J., Martin T.J., Wood W.I.;

RT "A parathyroid hormone-related protein implicated in malignant  
RT hypercalcemia: cloning and expression.";  
RL Science 237:893-896(1987).  
RN [2]

RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=88124888; PubMed=2829195;  
RA Mangin M., Webb A.C., Dreyer B.E., Posillico J.T., Ikeda K.,  
RA Weir E.C., Stewart A.F., Bander N.H., Milstone L., Barton D.E.,  
RA Francke U., Broadus A.E.;  
RT "Identification of a cDNA encoding a parathyroid hormone-like peptide  
RT from a human tumor associated with humoral hypercalcemia of  
RT malignancy.";  
RL Proc. Natl. Acad. Sci. U.S.A. 85:597-601(1988).  
RN [3]

RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=89214221; PubMed=2709388;  
RA Yasuda T., Banville D., Hendy G.N., Goltzman D.;  
RT "Characterization of the human parathyroid hormone-like peptide gene.  
RT Functional and evolutionary aspects.";  
RL J. Biol. Chem. 264:7720-7725(1989).  
RN [4]

RP NUCLEOTIDE SEQUENCE (ISOFORM 2).  
RX MEDLINE=88262996; PubMed=3290897;  
RA Thiede M.A., Strewler G.J., Nissenson R.A., Rosenblatt M., Rodan G.A.;  
RT "Human renal carcinoma expresses two messages encoding a parathyroid  
RT hormone-like peptide: evidence for the alternative splicing of a  
RT single-copy gene.";  
RL Proc. Natl. Acad. Sci. U.S.A. 85:4605-4609(1988).  
RN [5]

RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 2).  
RT TISSUE=Brain;  
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heieh F.,  
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Udwin T.B., Toshiyuki S., Carninci P., Prange C.,  
RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallos D.E.,  
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
RT "Generation and initial analysis of more than 15,000 full-length human  
RT and mouse cDNA sequences.";  
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RN [6]

RP NUCLEOTIDE SEQUENCE OF 1-33.  
RT TISSUE=Liver;  
RX MEDLINE=89306685; PubMed=2744490; DOI=10.1016/0378-1119(89)90363-6;  
RA Suva L.J., Mather K.A., Gillespie M.T., Webb G.C., Ng K.W.,  
RA Winslow G.A., Wood W.I., Martin T.J., Hudson P.J.;  
RT "Structure of the 5' flanking region of the gene encoding human  
RT parathyroid-hormone-related protein (PTHrP).";  
RL Gene 77:95-105(1989).  
RN [7]

RP PROTEIN SEQUENCE OF 37-52.  
RX MEDLINE=87260926; PubMed=2885845;  
RA Moseley J.M., Kubota M., Diefenbach-Jagger H., Wattenhall R.E.H.,  
RA Kemp B.E., Suva L.J., Rodda C.P., Ebeling P.R., Hudson P.J.,  
RA Zajac J.D., Martin T.J.;  
RT "Parathyroid hormone-related protein purified from a human lung cancer  
RT cell line.";  
RL Proc. Natl. Acad. Sci. U.S.A. 84:5048-5052(1987).  
RN [8]

RP ALTERNATIVE SPLICING (ISOFORM 3).  
RX MEDLINE=89184636; PubMed=2928340;

RA Mangin M., Ikeda K., Dreyer B.E., Broadus A.E.;  
RT "Isolation and characterization of the human parathyroid hormone-like  
RT peptide gene.";  
RL Proc. Natl. Acad. Sci. U.S.A. 86:2408-2412(1989).  
RN [9]

RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92007462; PubMed=1915066;  
RA Fenton A.J., Kemp B.E., Kent G.N., Moseley J.M., Zheng M.H.,  
RA Rowe D.J., Britto J.M., Martin T.J., Nicholson G.C.;  
RT "A carboxyl-terminal peptide from the parathyroid hormone-related  
RT protein inhibits bone resorption by osteoclasts.";  
RL Endocrinology 129:1762-1768(1991).  
RN [10]

RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92063907; PubMed=1954916;  
RA Fenton A.J., Kemp B.E., Hammonds R.G., Mitchell K., Moseley J.M.,  
RA Martin T.J., Nicholson G.C.;  
RT "A potent inhibitor of osteoclastic bone resorption within a highly  
RT conserved pentapeptide region of parathyroid hormone-related protein;  
RT PTHrP107-111.";  
RL Endocrinology 129:3424-3426(1991).  
RN [11]

RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97289439; PubMed=9144344;  
RA Martinez M.E., Garcia-Ocana A., Sanchez M., Medina S., del Campo T.,  
RA Valin A., Sanchez-Cabezudo M.J., Ebrill P.;  
RT "C-terminal parathyroid hormone-related protein inhibits proliferation  
RT and differentiation of human osteoblast-like cells.";  
RL J. Bone Miner. Res. 12:778-785(1997).  
RN [12]

RP CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97200810; PubMed=9048639; DOI=10.1210/en.138.3.1299;  
RA Cornish J., Callon K.E., Nicholson G.C., Reid I.R.;  
RT "Parathyroid hormone-related protein-(107-139) inhibits bone  
RT resorption in vivo.";  
RL Endocrinology 138:1299-1304(1997).  
RN [13]

RP NUCLEOCYTOPLASMIC SHUTTILING.  
RX MEDLINE=22736810; PubMed=12852260; DOI=10.1016/S0083-6729(03)01010-0;  
RA Jans D.A., Thomas R.J., Gillespie M.T.;  
RT "Parathyroid hormone-related protein (PTHrP): a nucleocytoplasmic  
RT shuttling protein with distinct paracrine and intracrine roles.";  
RL Vitam. Horm. 66:345-384(2003).  
RN [14]

RP NUCLEAR LOCALIZATION SIGNAL.  
RX MEDLINE=21294781; PubMed=11401507; DOI=10.1006/bbrc.2001.4607;  
RA Lam M.H., Hu W., Xiao C.Y., Gillespie M.T., Jans D.A.;  
RT "Molecular dissection of the importin beta1-recognized nuclear  
RT targeting signal of parathyroid hormone-related protein.";  
RL Biochem. Biophys. Res. Commun. 282:629-634(2001).  
RN [15]

RP REVIEW.  
RX MEDLINE=22425984; PubMed=12538599; DOI=10.1210/en.2002-220818;  
RA Fiaschi-Taesch N.M., Stewart A.F.;  
RT "Minireview: parathyroid hormone-related protein as an intracrine  
RT factor -- trafficking mechanisms and functional consequences.";  
RL Endocrinology 144:407-411(2003).  
RN [16]

RP STRUCTURE BY NMR OF 37-70.  
RX MEDLINE=99158054; PubMed=10050767; DOI=10.1016/S0014-5793(98)01658-5;  
RA Weidner M., Marx U.C., Seidel G., Schafer W., Hoffmann E., Esswein A.,  
RA Rosch P.;  
RT "The structure of human parathyroid hormone-related protein(1-34) in  
RT near-physiological solution.";  
RL FEBS Lett. 444:239-244(1999).  
RN [17]

RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS) OF 103-130.  
RX MEDLINE=22394015; PubMed=12504010; DOI=10.1016/S1097-2765(02)00727-X;  
RA Cingolani G., Bedenko J., Gillespie M.T., Gerace L.;  
RT "Molecular basis for the recognition of a nonclassical nuclear  
RT localization signal by importin beta.";  
RL Mol. Cell 10:1345-1353(2002).  
RN [18]

CC -I- FUNCTION: Neuroendocrine peptide which is a critical regulator of

cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth.

-!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption.

-!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted.

-!- ALTERNATIVE PRODUCTS:

Event=Alternative splicing; Named isoforms=3;  
Comment=Additional isoforms seem to exist;  
Name=1; IsoId=p12272-1; Sequence=Displayed;  
Name=2; IsoId=p12272-2; Sequence=VSP\_004534;  
Name=3; IsoId=p12272-3; Sequence=VSP\_004535;  
-!- TISSUE SPECIFICITY: Ubiquitous. Also expressed in the mammary gland.

-!- PTM: There are 3 principal secretory forms, called PTHrP[1-36], PTHrP[38-94], and osteostatin (PTHrP[107-139]) arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions.

-!- DISEASE: Produced by many tumors from patients with HHM (humoral hypercalcemia of malignancy).

-!- SIMILARITY: Belongs to the parathyroid hormone family.

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-----  
DR EMBL; M17183; AAA60221.1; -; Genomic\_DNA.

Query Match 100.0%; Score 50; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.31;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
|  
Db 147 WLDGVTGS 155

RESULT 3  
Q6FH74 HUMAN PRELIMINARY; PRT; 177 AA.  
AC Q6FH74;  
DT 10-MAY-2005 (TrEMBLrel. 30, Created)  
DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)  
DT 10-MAY-2005 (TrEMBLrel. 30, Last annotation update)  
DE PTHLH protein (Fragment).  
GN Name=PTHLH;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Halleck A., Ebert L., Moundinya M., Schick M., Eisenstein S.,  
RA Neubert P., Katrang K., Schatten R., Shen B., Henze S., Mar W.,  
RA Korn B., Zuo D., Hu Y., Labaer J.,  
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; CR541882; CAG4680.1; -; mRNA.  
FT NON TER 177  
SQ SEQUENCE 177 AA; 20194 MW; 449DFEE954C51DB CRC64;

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.31;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
|  
Db 147 WLDGVTGS 155

RESULT 4  
Q9BDZ3 RABIT PRELIMINARY; PRT; 202 AA.  
AC Q9BDZ3;  
DT 01-JUN-2001 (TrEMBLrel. 17, Created)  
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Parathyroid hormone-related protein.  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Glires; Lagomorpha; Leporidae;  
OC Oryctolagus.  
OX NCBI\_TaxID=9986;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Perichondrial;  
RA Gooner R., Terkeltaub R., Deftos L.J.;  
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF219973; AAK38175.1; -; mRNA.  
DR HSP; P12272; IBZG.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyrd\_hrm.  
DR InterPro; IPR003626; PTH\_related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH\_related; 1.  
DR SMART; SM00087; PTH; 1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
SQ SEQUENCE 202 AA; 22924 MW; 03FBE00AEF3EA7D6 CRC64;

Query Match 100.0%; Score 50; DB 2; Length 202;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
|  
Db 147 WLDGVTGS 155

RESULT 5  
Q4MN53 BACCE PRELIMINARY; PRT; 553 AA.  
AC Q4MN53;  
DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)  
DE Trehalose-6-phosphate hydrolase.  
GN ORFNames=BCE\_G9241\_0609;  
OS Bacillus cereus G9241.  
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;  
OC Bacillus cereus group.  
OX NCBI\_TaxID=269801;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC STRAIN=G9241;  
RX PubMed=15155910; DOI=10.1073/pnas.0402414101;  
RA Hofmaster A.R., Ravel J., Raeko D.A., Chapman G.D., Chute M.D.,  
RA Marston C.K., De B.K., Sacchi C.T., Fitzgerald C., Mayer L.W.,  
RA Maiden M.C.J., Priest F.G., Barker M., Jiang L., Cer R.Z.,  
RA Rillstone J., Peterson S.N., Weyant R.S., Galloway D.R., Read T.D.,  
RA Popovic T., Fraser C.M.;  
RT "Identification of anthrax toxin genes in a Bacillus cereus associated with an illness resembling inhalation anthrax.";  
RL Proc. Natl. Acad. Sci. U.S.A. 101:8449-8454(2004).  
CC -!- CAUTION: The sequence shown here is derived from an  
CC EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is  
CC preliminary data.

```

DR EMBL; AAEK01000024; EAL13578.1; -; Genomic_DNA.
KW Hydrolyase.
SQ SEQUENCE 553 AA; 65622 MW; 6400A3847C7C7A7F CRC64;

Query Match 84.0%; Score 42; DB 2; Length 553;
Best Local Similarity 87.5%; Pred. No. 35;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 WLDGSGVTG 8
D 181 WLDKGVGTG 188

RESULT 6
Q81HZ4_BACCR PRELIMINARY; PRT; 553 AA.
AC Q81HZ4;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Trehalose-6-phosphate hydrolase (EC 3.2.1.93).
GN OrderedLocusNames=BC0632;
OS Bacillus cereus (strain ATCC 14579 / DSM 31).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
OC Bacillus cereus group.
OX NCBI_TaxID=226900;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22608415; PubMed=12721630; DOI=10.1038/nature01582;
RA Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B.,
RA Kapatal V., Bhattacharya A., Reznik G., Mikhailova N., Lapidus A.,
RA Chu L., Mazur M., Goltzman E., Larsen N., D'Souza M., Walunas T.,
RA Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S.D.,
RA Overbeek R., Kyripides N.C.;
RT "Genome sequence of Bacillus cereus and comparative analysis with
RT Bacillus anthracis."
RL Nature 423:87-91(2003).
DR EMBL; AE017000; AAP07649.1; -; Genomic_DNA.
DR HSP; P21332; IUOK.
DR GO; GO:0008788; F:alpha,alpha-phosphotrehalase activity; IEA.
DR GO; GO:0004556; F:alpha-amylase activity; IEA.
DR GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds; IEA.
DR GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR InterPro; IPR006047; Alpha_amyl_cat.
DR InterPro; IPR006589; Alp_amyl_cat_sub.
DR Pfam; PF00128; Alpha-amylase; 1.
DR SMART; SM00642; Amy; 1.
KW Complete proteome; Glycosidase; Hydrolase.
SQ SEQUENCE 553 AA; 65255 MW; 4B44C6662657B9F8 CRC64;

Query Match 84.0%; Score 42; DB 2; Length 553;
Best Local Similarity 87.5%; Pred. No. 35;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 WLDGSGVTG 8
D 181 WLDKGVGTG 188

RESULT 7
Q73DL2_BACCI
ID Q73DL2_BACCI PRELIMINARY; PRT; 553 AA.
AC Q73DL2;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE Trehalose-6-phosphate hydrolase (EC 3.2.1.93).
GN Name=treC; OrderedLocusNames=BC0700;
OS Bacillus cereus (strain ATCC 10987).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
OC Bacillus cereus group.
OX NCBI_TaxID=222523;
RN [1]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K.,

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```

RA Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R.,
RA Richardson P., Rubin E., Tice H.;
RT "Complete genome sequence of Bacillus anthracis Sterne.";
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; AE017026; AA24649.1; -; Genomic DNA.
DR EMBL; AE017334; AA29735.1; -; Genomic DNA.
DR EMBL; AE017225; AA25297.1; -; Genomic DNA.
DR HSP; P21332; 1UOK.
DR TIGR; BA0632; -.
DR TIGR; BAA0632; -.
DR GO; GO:0004556; F:alpha-amylase activity; IEA.
DR GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds; IEA.
DR GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR InterPro; IPR006047; Alpha amyl cat.
DR InterPro; IPR006589; Alp_amyl_cat_sub.
DR Pfam; PF00128; Alpha-amylase; 1.
DR SMART; SM00642; Amy; 1.
KW Complete proteome; Hydrolase.
SQ SEQUENCE 553 AA; 65395 MW; DA622EFBC73A3BFF CRC64;

Query Match 84.0%; Score 42; DB 2; Length 553;
Best Local Similarity 87.5%; Pred. No. 35;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8
Db 181 WLDKGVGTG 188

RESULT 9
ID Q6HNI1 BACHK PRELIMINARY; PRT; 553 AA.
AC Q6HNI1;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DE Alpha.alpha-phosphotrehalase (Trehalose-6-phosphate hydrolase)
DE (EC 3.2.1.93).
GN NameTrec; OrderedLocusNames=BT9727.0543;
OS Bacillus thuringiensis (subsp. konkukian).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
OC Bacillus cereus group.
OX NCBI_TaxID=180856;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=97-27;
RA Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K.,
RA Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R.,
RA Richardson P., Rubin E., Tice H.;
RT "Complete genome sequence of Bacillus thuringiensis 97-27.";
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; AE017355; AA26243.1; -; Genomic DNA.
DR GO; GO:0004556; F:alpha-amylase activity; IEA.
DR GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds; IEA.
DR GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR InterPro; IPR006047; Alpha amyl cat.
DR InterPro; IPR006589; Alp_amyl_cat_sub.
DR Pfam; PF00128; Alpha-amylase; 1.
DR SMART; SM00642; Amy; 1.
KW Complete proteome.
SQ SEQUENCE 553 AA; 65432 MW; 76BFBD37083A3BFD CRC64;

Query Match 84.0%; Score 42; DB 2; Length 553;
Best Local Similarity 87.5%; Pred. No. 35;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8
Db 181 WLDKGVGTG 188

RESULT 10
ID Q63G13_BACCC PRELIMINARY; PRT; 553 AA.
AC Q63G13;
DT 25-OCT-2004 (TrEMBLrel. 28, Created)
DT 25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT 25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE Alpha.alpha-phosphotrehalase (Trehalose-6-phosphate hydrolase)
DE (EC 3.2.1.93).
GN NameTrec;
OS Bacillus cereus (strain ZK).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
OC Bacillus cereus group.
OX NCBI_TaxID=288681;
RN [1]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K.,
RA Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R.,
RA Richardson P., Rubin E., Tice H.;
RT "Complete genome sequence of Bacillus cereus ZK.";
RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; CP000001; AA19698.1; -; Genomic DNA.
DR GO; GO:0008788; F:alpha.alpha-phosphotrehalase activity; IEA.
DR GO; GO:0004556; F:alpha-amylase activity; IEA.
DR GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds; IEA.
DR GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR InterPro; IPR006047; Alpha amyl cat.
DR InterPro; IPR006589; Alp_amyl_cat_sub.
DR Pfam; PF00128; Alpha-amylase; 1.
DR SMART; SM00642; Amy; 1.
KW Complete proteome; Glycosidase; Hydrolase.
SQ SEQUENCE 553 AA; 65412 MW; 19004A3D30920519 CRC64;

Query Match 84.0%; Score 42; DB 2; Length 553;
Best Local Similarity 87.5%; Pred. No. 35;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8
Db 181 WLDKGVGTG 188

RESULT 11
ID Q7UQJ1_RHOBA PRELIMINARY; PRT; 272 AA.
AC Q7UQJ1;
DT 01-OCT-2003 (TrEMBLrel. 25, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Hypothetical protein.
GN OrderedLocusNames=RB6292;
OS Rhodopirellula baltica.
OC Bacteria; Planctomycetes; Planctomycetacia; Planctomycetales;
OC Planctomycetaceae; Pirellula.
OX NCBI_TaxID=117;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=1;
RX MEDLINE=22735913; PubMed=12835416; DOI=10.1073/pnas.1431443100;
RA Gloeckner F.O., Kube M., Bauer M., Teeling H., Lombardot T.,
RA Ludwig W., Gade D., Beck A., Borzym K., Heitmann K., Rabus R.,
RA Schlesner H., Amann R., Reinhardt R.;
RT "Complete genome sequence of the marine planctomycete Pirellula sp.
strain 1.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:8298-8303(2003).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
CC -1- SIMILARITY: Belongs to the hsa/hisF family.
DR EMBL; BX294143; CA274712.1; -; Genomic DNA.
DR GO; GO:0000105; P:histidine biosynthesis; IEA.
DR InterPro; IPR006062; His biosynth.
DR InterPro; IPR003009; Related FMN_bd.
DR Pfam; PF00977; His_biosynth; 1.
DR Amino-acid biosynthesis; Complete proteome; Histidine biosynthesis;
KW Hypothetical protein.
SQ SEQUENCE 272 AA; 29906 MW; 2247006D667B2C3C CRC64;

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Query Match      82.0%  Score 41;  DB 2;  Length 272;
Best Local Similarity 77.8%  Pred. No. 25;
Matches 7;  Conservative 1;  Mismatches 1;  Indels 0;  Gaps 0;

QY      1  WLDGSGVTGS 9
      |:|:|:|:|
Db      109 WLDGSGVTGS 117

RESULT 12
Q4P7P7 USTMA PRELIMINARY;      PRT;      954 AA.
AC Q4P7P7
DT 13-SEP-2005 (TrEMBLrel. 31, Created)
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE Hypothetical protein.
GN ORFNames=UM03866.1;
OS Ustilago maydis 521.
OC Eukaryota; Fungi; Basidiomycota; Ustilaginomycetes; Ustilaginaceae; Ustilago.
OC Ustilaginomycetidae; Ustilaginales; Ustilaginaceae; Ustilago.
OX NCBI_TaxID=237631;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=521;
RA Birren B., Nusbaum C., Abebe A., Abouelleil A., Adekoya E.,
  Alt-zahra M., Allen N., Allen T., An P., Anderson M., Anderson S.,
  Arachchi H., Armbruster J., Bachantseang P., Baldwin J., Barry A.,
  Bayul T., Blitshsteyn B., Bloom T., Blye J., Boguslavskiy L.,
  Borowsky M., Boukhaltier B., Brunache A., Butler J., Calixte N.,
  Calvo S., Camarata J., Campo K., Chang J., Cheshatsang Y., Citroen M.,
  Collamore A., Considine T., Cook A., Cooke P., Corum B., Cuomo C.,
  David R., Dawoe T., Degray S., Dodge S., Dooley K., Dorje P.,
  Dorjee K., Dorris L., Duffey N., Dupes A., Elkins T., Engels R.,
  Erickson J., Farina K., Fager D., Ferreira P., Fischer H.,
  Fitzgerald M., Foley K., Gage D., Galagan J., Gearin G., Gierre S.,
  Gierke A., Goyette A., Graham J., Grandbois E., Gyaltsen K., Hafez N.,
  Hagoian D., Hagos B., Hall J., Hatcher B., Heiler A., Higgins H.,
  Honan T., Horn A., Houde N., Hughes L., Hulme W., Husby E., Iliev I.,
  Jaffe D., Jones C., Kanai M., Kanat A., Kanvayseles M., Karlsson E.,
  Kells C., Kieu A., Kisner P., Kodira C., Kulbokas E., Labutti K.,
  Lama D., Landers T., Leger J., Levine S., Lewis D., Lewis T.,
  Lindblad-toh K., Liu X., Lokytsang T., Lokytsang Y., Lucien O.,
  Lui A., Ma L.J., Mabbitt R., MacDonald J., Maclean C., Major J.,
  Manning J., Marabella R., Maru K., Matthews C., Mauceli E.,
  McCarthy M., McDonough S., McGhee T., Meldrim J., Meneus L.,
  Mesirov J., Mihalev A., Mihova T., Mikkelsen T., Mlenga V., Moru K.,
  Mozes J., Mulrain L., Munson G., Naylor J., Neues C., Nguyen C.,
  Nguyen N., Nguyen T., Nicol R., Nielsen C., Nizzari M., Norbu C.,
  Norbu N., O'donnell P., Okoawo O., O'leary S., Omotsho B.,
  O'Neill K., Osman S., Parker S., Perrin D., Phunkthong P., Pignani B.,
  Purcell S., Rachupka T., Ramasamy U., Rameau R., Ray V., Raymond C.,
  Retta R., Richardson S., Rise C., Rodriguez J., Rogers J., Rogov P.,
  Rutman M., Schupbach R., Seaman C., Settupalli S., Sharpe T.,
  Sheridan J., Sherpa N., Shi J., Smirnov S., Smith C., Sougnez C.,
  Spencer B., Stalker J., Stange-thomann N., Stavropoulos S.,
  Stetson K., Stone C., Stone S., Stubbs M., Talamas J., Tchuinga P.,
  Tenzing P., Tesfaye S., Theodore J., Thoultsang Y., Topham K.,
  Tovey S., Tsamla T., Tsomo N., Vallee D., Vassiliev H.,
  Venkataraman V., Vinson J., Vo A., Wade C., Wang S., Wangchuk T.,
  Wangdi T., Whittraker C., Wilkinson J., Wu Y., Wyman D., Yadav S.,
  Yang S., Yang X., Yeager S., Yee E., Young G., Zainoun J., Zembeck L.,
  Zimmer A., Zody M., Lander E.;
RT "The genome sequence of Ustilago maydis."
RL Submitted (FEB-2004) to the EMBL/GenBank/DBJ databases.
CC -!- CAUTION: The sequence shown here is derived from an
CC preliminary data.
CC EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is
CC preliminary data.
CC EMBL; AACP0100131; EAK84772.1; -; Genomic_DNA.
DR Hypothetical protein.
KW SEQUENCE 954 AA; 107394 MW; 490F2E82B7C4EC0D CRC64;
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Query Match      82.0%  Score 41;  DB 2;  Length 954;
Best Local Similarity 77.8%  Pred. No. 96;
Matches 7;  Conservative 1;  Mismatches 1;  Indels 0;  Gaps 0;

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Db      747 WLDGSGVTGS 755

RESULT 13
Q659U2 PHOVI PRELIMINARY;      PRT;      177 AA.
AC Q659U2
DT 25-OCT-2004 (TrEMBLrel. 28, Created)
DT 25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT 25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE Parathyroid hormone related protein (Fragment).
GN Name=pthlp;
OS Phoca vitulina (Harbor seal).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Pinnipedia; Phocidae;
OC Phoca.
OX NCBI_TaxID=9720;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Lung;
RA Hammond H.A., Bennett K.A., Walton M.J., Hall A.J.;
RT "Molecular cloning and expression of leptin from seals and its
  potential role in the control of pinniped pulmonary surfactant
  secretion."
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.
[2]
RN NUCLEOTIDE SEQUENCE.
RP TISSUE=Lung;
RC TISSUE=Lung;
RA Hammond J.A.;
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; AJ831411; CAH39862.1; -; mRNA.
DR GO; GO:0005576; C:extracellular region; IEA.
DR GO; GO:0005179; F:kinase activity; IEA.
DR GO; GO:0007595; P:lactation; IEA.
DR InterPro; IPR001415; Parathyroid hrm.
DR InterPro; IPR003626; PTH related.
DR Pfam; PF01279; Parathyroid; 1.
DR ProDom; PD013225; PTH related; 1.
DR SMART; SM00087; PTH; 1.
DR PROSITE; PS00335; PARATHYROID; 1.
FT NON TER 177
SQ SEQUENCE 177 AA; 20284 MW; 6E9941BBD22F5397 CRC64;

Query Match      80.0%  Score 40;  DB 2;  Length 177;
Best Local Similarity 77.8%  Pred. No. 25;
Matches 7;  Conservative 1;  Mismatches 1;  Indels 0;  Gaps 0;

QY      1  WLDGSGVTGS 9
      |:|:|:|:|
Db      147 WLDGSGVTGS 155

RESULT 14
Q659U3 HALGR PRELIMINARY;      PRT;      177 AA.
AC Q659U3
DT 25-OCT-2004 (TrEMBLrel. 28, Created)
DT 25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT 25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE Parathyroid hormone related protein (Fragment).
GN Name=pthlp;
OS Halichoerus grypus (Gray seal).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Pinnipedia; Phocidae;
OC Halichoerus.
OX NCBI_TaxID=9711;
RN [1]
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RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Lung;  
RA Hammond H.A., Bennett K.A., Walton M.J., Hall A.J.;  
RT "Molecular cloning and expression of leptin from seals and its  
RT potential role in the control of pinniped pulmonary surfactant  
RT secretion.";  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
RN [2]

RN NUCLEOTIDE SEQUENCE.

RC TISSUE=Lung;  
RA Hammond J.A.;  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AJ831410; CAH39861.1; -; mRNA.  
DR GO; GO:0005576; C:extracellular region; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007595; P:lactation; IEA.  
DR InterPro; IPR001415; Parathyrd hrm.  
DR InterPro; IPR003626; PTH related.  
DR Pfam; PF01279; Parathyroid; 1.  
DR ProDom; PD013225; PTH related; 1.  
DR SMART; SM00087; PTH; 1.  
DR PROSITE; PS00335; PARATHYROID; 1.  
FT NON TER 177 177  
SQ SEQUENCE 177 AA; 20284 MW; 6E9941EBD22F5397 CRC64;

Query Match 80.0%; Score 40; DB 2; Length 177;  
Best Local Similarity 77.8%; Pred. No. 25;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

#### RESULT 15

Q5C704 SCHJA  
ID Q5C704 SCHJA PRELIMINARY; PRT; 188 AA.  
AC Q5C704;  
DT 10-MAY-2005 (TrEMBLrel. 30, Created)  
DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)  
DT 10-MAY-2005 (TrEMBLrel. 30, Last annotation update)  
DE Hypothetical protein.  
OS Schistosoma japonicum (Blood fluke).  
OC Eukaryota; Metazoa; Platyhelminthes; Trematoda; Digenea; Strigeidida;  
OC Schistosomatoidea; Schistosomatidae; Schistosoma.  
OX NCBI\_TaxID=6182;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Han Z.;  
RL Submitted (MAR-2005) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AY808681; AAX24570.1; -; mRNA.  
DR InterPro; IPR001524; Glyco\_hydro\_6.  
KW Hypothetical protein.  
SQ SEQUENCE 188 AA; 20268 MW; 6BD5AE5316B9013C CRC64;

Query Match 80.0%; Score 40; DB 2; Length 188;  
Best Local Similarity 87.5%; Pred. No. 27;  
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8  
Db 89 WLDGVTG 96

Search completed: December 2, 2005, 23:19:41  
Job time : 30.2281 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:28:10 ; Search time 6.11798 Seconds  
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Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
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Post-processing: Minimum Match 0%  
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	50	100.0	32	2	US-09-623-548A-305
2	50	100.0	32	2	US-09-657-276-305
3	50	100.0	33	1	US-08-064-111C-2
4	50	100.0	33	2	US-09-623-548A-306
5	50	100.0	33	2	US-09-657-276-306
6	50	100.0	56	6	5217896-7
7	50	100.0	141	1	US-08-411-726-5
8	50	100.0	141	6	5217896-3
9	50	100.0	177	2	US-09-643-597-165
10	50	100.0	177	2	US-09-643-597-166
11	50	100.0	177	2	US-09-480-884A-165
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13	50	100.0	177	2	US-09-542-615A-165
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15	50	100.0	177	2	US-09-606-421B-165
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17	50	100.0	177	2	US-09-976-594-447
18	50	100.0	177	2	US-09-466-396A-165
19	50	100.0	177	2	US-09-466-396A-166
20	50	100.0	177	2	US-09-476-496A-165
21	50	100.0	177	2	US-09-476-496A-166
22	50	100.0	177	2	US-09-630-940B-165
23	50	100.0	177	2	US-09-630-940B-166
24	50	100.0	177	2	US-09-285-479-165
25	50	100.0	177	2	US-09-285-479-166
26	50	100.0	177	2	US-10-007-700-165
27	50	100.0	177	2	US-10-007-700-166

28	50	100.0	209	1	US-08-064-111C-1	Sequence 1, Appli
29	50	100.0	256	2	US-09-949-016-10164	Sequence 10164, A
30	38	76.0	435	1	US-08-374-155A-5	Sequence 5, Appli
31	38	76.0	435	1	US-08-785-396-5	Sequence 5, Appli
32	38	76.0	435	2	US-10-061-269-5	Sequence 5, Appli
33	38	76.0	593	1	US-08-374-155A-14	Sequence 14, Appl
34	38	76.0	593	1	US-08-785-396-14	Sequence 14, Appl
35	38	76.0	593	2	US-10-061-269-14	Sequence 14, Appl
36	38	76.0	597	1	US-08-374-155A-12	Sequence 12, Appl
37	38	76.0	597	1	US-08-785-396-12	Sequence 12, Appl
38	38	76.0	597	2	US-10-061-269-12	Sequence 12, Appl
39	38	76.0	600	1	US-08-374-155A-10	Sequence 10, Appl
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ALIGNMENTS

RESULT 1  
US-09-623-548A-305  
; Sequence 305, Application US/09623548A  
; Patent No. 6849714  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibadeau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/623,548A  
; CURRENT FILING DATE: 2000-09-05  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: Patent In Ver. 2.1  
; SEQ ID NO 305  
; LENGTH: 32  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-623-548A-305

Query Match 100.0%; Score 50; DB 2; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.029;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 WLDGVTGS 9  
|||  
Db 5 WLDGVTGS 13  
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RESULT 2  
US-09-657-276-305  
; Sequence 305, Application US/09657276  
; Patent No. 6887470  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique

; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/657,276  
; CURRENT FILING DATE: 2000-09-07  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 305  
; LENGTH: 32  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-657-276-305

Query Match 100.0%; Score 50; DB 2; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.029;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 5 WLDGVTGS 13

RESULT 3  
US-08-064-111C-2  
; Sequence 2, Application US/08064111C  
; Patent No. 5688760  
; GENERAL INFORMATION:  
; APPLICANT: Kemp, Bruce E.  
; APPLICANT: Nicholson, Geoffrey C.  
; APPLICANT: Martin, Thomas J.  
; APPLICANT: Fenton, Anna J.  
; APPLICANT: Hammond, R. Glenn  
; TITLE OF INVENTION: COMPOUNDS AND COMPOSITIONS WHICH INHIBIT  
; TITLE OF INVENTION: BONE RESORPTION  
; NUMBER OF SEQUENCES: 26  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert,  
; ADDRESSEE: Attn: W.H. Dreger  
; STREET: 4 Embarcadero Center, Suite 3400  
; CITY: San Francisco  
; STATE: California  
; COUNTRY: United States  
; ZIP: 94111-4187  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/064,111C  
; FILING DATE: 12-AUG-1993  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/AU91/00580  
; FILING DATE: 13-DEC-1991  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: AU PK9567  
; FILING DATE: 19-NOV-1991  
; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: AU PK3879  
; FILING DATE: 13-DEC-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Dreger, Walter H.  
; REGISTRATION NUMBER: 24,190  
; REFERENCE/DOCKET NUMBER: A-58456/WH  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (415) 781-1989  
; TELEFAX: (415) 398-3249  
; TELEX: 910 277299  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 33 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-064-111C-2

Query Match 100.0%; Score 50; DB 1; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.03;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 5 WLDGVTGS 13

RESULT 4  
US-09-623-548A-306  
; Sequence 306, Application US/09623548A  
; Patent No. 6849714  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/623,548A  
; CURRENT FILING DATE: 2000-09-05  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 306  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-623-548A-306

Query Match 100.0%; Score 50; DB 2; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.03;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 3 WLDGVTGS 11

RESULT 5  
US-09-657-276-306

; Sequence 306, Application US/09657276  
; Patent No. 6887470  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/657,276  
; CURRENT FILING DATE: 2000-09-07  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: Patentin Ver. 2.1  
; SEQ ID NO 306  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-657-276-306

Query Match 100.0%; Score 50; DB 2; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.03; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9  
Db 3 WLDGVTGS 11

## RESULT 6

5217896-7  
; Patent No. 5217896  
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS  
; JR., FREDERICK H.; SORVILLO, JOHN M.  
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING  
; PARATHYROID HORMONE-LIKE PROTEIN  
; NUMBER OF SEQUENCES: 8  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/292,263  
; FILING DATE: 30-DEC-1988  
; SEQ ID NO: 7;  
; LENGTH: 56  
5217896-7

Query Match 100.0%; Score 50; DB 6; Length 56;  
Best Local Similarity 100.0%; Pred. No. 0.052; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9  
Db 26 WLDGVTGS 34

## RESULT 7

US-08-411-726-5  
; Sequence 5, Application US/08411726  
; Patent No. 5880093  
; GENERAL INFORMATION:  
; APPLICANT: BAGNOLI, Franco  
; TITLE OF INVENTION: Use of Parathormone, Its Biologically  
; TITLE OF INVENTION: Active Fragments and Correlated Peptides, for The Preparation

; TITLE OF INVENTION: Pharmaceutical Compositions Useful for The Treatment of Pregnant  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Kenyon & Kenyon  
; STREET: 1 Broadway  
; CITY: New York  
; STATE: NY  
; COUNTRY: US  
; ZIP: 10004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: 3.5 Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS 6.2  
; SOFTWARE: WordPerfect 6.1 for Windows  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/411,726  
; FILING DATE: 05-APR-1995  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/EP93/02755  
; FILING DATE: 08-OCT-1993  
; APPLICATION NUMBER: MI-92A002331  
; FILING DATE: 09-OCT-1992  
; ATTORNEY/AGENT INFORMATION:  
; NAME: PALMESE, Maria Luisa  
; REGISTRATION NUMBER: 34,402  
; REFERENCE/DOCKET NUMBER: 2111/1300  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 212-425-7200  
; TELEFAX: 212-425-5288  
; INFORMATION FOR SEQ ID NO: 5:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 141 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-411-726-5

Query Match 100.0%; Score 50; DB 1; Length 141;  
Best Local Similarity 100.0%; Pred. No. 0.14; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9  
Db 111 WLDGVTGS 119

## RESULT 8

5217896-3  
; Patent No. 5217896  
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS  
; JR., FREDERICK H.; SORVILLO, JOHN M.  
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING  
; PARATHYROID HORMONE-LIKE PROTEIN  
; NUMBER OF SEQUENCES: 8  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/292,263  
; FILING DATE: 30-DEC-1988  
; SEQ ID NO: 3;  
; LENGTH: 141  
5217896-3

Query Match 100.0%; Score 50; DB 6; Length 141;  
Best Local Similarity 100.0%; Pred. No. 0.14; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 WLDGVTGS 9  
Db 111 WLDGVTGS 119

## RESULT 9

US-09-643-597-165  
; Sequence 165, Application US/09643597  
; Patent No. 6426072  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: McNeill, Patricia D.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C11  
; CURRENT APPLICATION NUMBER: US/09/643,597  
; CURRENT FILING DATE: 2000-08-21  
; NUMBER OF SEQ ID NOS: 369  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-643-597-165

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 10  
US-09-643-597-166  
; Sequence 166, Application US/09643597  
; Patent No. 6426072  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: McNeill, Patricia D.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C11  
; CURRENT APPLICATION NUMBER: US/09/643,597  
; CURRENT FILING DATE: 2000-08-21  
; NUMBER OF SEQ ID NOS: 369  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-643-597-166

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 11  
US-09-480-884A-165  
; Sequence 165, Application US/09480884A  
; Patent No. 6482597  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; FILE REFERENCE: 210121.455C6  
; CURRENT APPLICATION NUMBER: US/09/480,884A  
; CURRENT FILING DATE: 2001-08-27  
; NUMBER OF SEQ ID NOS: 330  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-480-884A-165

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 12  
US-09-480-884A-166  
; Sequence 166, Application US/09480884A  
; Patent No. 6482597  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; FILE REFERENCE: 210121.455C6  
; CURRENT APPLICATION NUMBER: US/09/480,884A  
; CURRENT FILING DATE: 2001-08-27  
; NUMBER OF SEQ ID NOS: 330  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-480-884A-166

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 13  
US-09-542-615A-165  
; Sequence 165, Application US/09542615A  
; Patent No. 6518256  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun



; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C8  
; CURRENT APPLICATION NUMBER: US/09/542,615A  
; CURRENT FILING DATE: 2000-04-14  
; NUMBER OF SEQ ID NOS: 350  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-542-615A-165

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 14  
US-09-542-615A-166  
; Sequence 166, Application US/09542615A  
; Patent No. 6518256  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C8  
; CURRENT APPLICATION NUMBER: US/09/542,615A  
; CURRENT FILING DATE: 2000-04-14  
; NUMBER OF SEQ ID NOS: 350  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-542-615A-166

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

RESULT 15  
US-09-606-421B-165  
; Sequence 165, Application US/09606421B  
; Patent No. 6531315  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C9  
; CURRENT APPLICATION NUMBER: US/09/606,421B  
; CURRENT FILING DATE: 2000-06-28  
; NUMBER OF SEQ ID NOS: 358  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-606-421B-165

Query Match 100.0%; Score 50; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.18;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9  
Db 147 WLDGVTGS 155

Search completed: December 2, 2005, 22:38:22  
Job time : 6.11798 secs

**This Page Blank (uspto)**

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 23:03:56 ; Search time 24.8764 Seconds  
(without alignments)  
158.962 Million cell updates/sec

Title: US-10-691-125-5  
Perfect score: 42  
Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_21:\*  
1: Geneseq1980s:\*  
2: Geneseq1990s:\*  
3: Geneseq2000s:\*  
4: Geneseq2001s:\*  
5: Geneseq2002s:\*  
6: Geneseq2003as:\*  
7: Geneseq2003bs:\*  
8: Geneseq2004s:\*  
9: Geneseq2005s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	9	8	Adh77313 Yeast kil
2	42	100.0	9	9	Adw98594 Human par
3	42	100.0	12	5	Aau77911 Human PTH
4	42	100.0	24	8	Adk98649 Parathyro
5	42	100.0	32	4	Aab91131 Parathyro
6	42	100.0	33	4	AAb91132
7	42	100.0	33	5	AAU77907 Human PTH
8	42	100.0	33	8	Adk98653 Parathyro
9	42	100.0	33	8	Adk98658 Human par
10	42	100.0	33	8	Adk98656 Parathyro
11	42	100.0	34	2	AAAR26411 C-termina
12	42	100.0	56	2	AAAR41539 Synthetic
13	42	100.0	79	2	AAAR06980 pThrP(B)
14	42	100.0	133	5	AAE23744 Human par
15	42	100.0	135	5	AAE23745 Human par
16	42	100.0	139	5	AAO14630 Human PTH
17	42	100.0	139	5	ABO04991 Human par
18	42	100.0	139	5	AAE23750 Human par
19	42	100.0	139	5	ADP04402 Human par
20	42	100.0	141	2	AAW99452 Human par
21	42	100.0	141	5	AAO14631 Human PTH
22	42	100.0	141	5	ABO04992 Human par
23	42	100.0	141	5	AAE23749 Human par
24	42	100.0	141	8	ADP04403 Human par

25	42	100.0	141	9	ADW99590	Adw99590 Human par
26	42	100.0	173	5	AAO14632	AAO14632 Human PTH
27	42	100.0	173	5	ABO04993	ABO04993 Human par
28	42	100.0	173	8	ADP04404	ADP04404 Human par
29	42	100.0	175	6	ABU56498	ABU56498 Lung canc
30	42	100.0	175	6	ABU56578	ABU56578 Lung canc
31	42	100.0	175	6	ABR92141	ABR92141 Human cer
32	42	100.0	175	8	ADJ36543	ADJ36543 Human pro
33	42	100.0	175	8	ADK98647	ADK98647 Human par
34	42	100.0	175	8	ADU06427	ADU06427 Novel bro
35	42	100.0	177	1	AP80303	AP80303 Sequence
36	42	100.0	177	1	AP80304	AP80304 Sequence
37	42	100.0	177	2	AAW12724	AAW12724 PTH-Like
38	42	100.0	177	2	AAAY41037	AAAY41037 Human lun
39	42	100.0	177	2	AAAY41038	AAAY41038 Human lun
40	42	100.0	177	3	AAAB11323	AAAB11323 Human lun
41	42	100.0	177	3	AAAB11322	AAAB11322 Human lun
42	42	100.0	177	5	ABB74954	ABB74954 Human lun
43	42	100.0	177	5	ABB74955	ABB74955 Human lun
44	42	100.0	177	5	ABP61874	ABP61874 Human lun
45	42	100.0	177	5	ABP61875	ABP61875 Human lun

## ALIGNMENTS

RESULT 1  
ADH77313  
ID ADH77313 standard; peptide; 9 AA.  
XX  
AC ADH77313;  
XX  
DT 15-APR-2004 (first entry)  
XX  
DE Yeast killer toxin-related control peptide #1.  
XX  
KW variable region; anti-idiotypic antibody; yeast killer toxin;  
KW microbial infection; viral infection; candidosis; aspergillosis;  
KW cryptococcosis; sporothrychosis; blastomycosis; histoplasmosis; thrush;  
KW tuberculosis; mycobacteriosis; respiratory infection; scarlet fever;  
KW pneumonia; impetigo; rheumatic fever; sepsis; septicaemia;  
KW cutaneous leishmaniasis; visceral leishmaniasis; keratitis;  
KW cystic fibrosis; typhoid fever; gastroenteritis; flu; influenza; HIV;  
KW AIDS; H6; control peptide.  
XX  
OS Synthetic.  
XX  
PF WO2003095493-A2.  
XX  
PD 20-NOV-2003.  
XX  
PF 09-MAY-2003; 2003WO-IB002348.  
XX  
PR 10-MAY-2002; 2002GB-00010783.  
XX  
PA (UYSI-) UNIV SIENA.  
PA (POLO/) POLONELLI L.  
PA (CASS/) CASSONE A.  
XX  
PI Polonelli L, Cassone A;  
XX  
DR WPI; 2004-012091/01.  
XX  
PT New toxin-related polypeptides comprising a fragment of a variable region  
PT of an anti-idiotypic antibody which recognizes the idioctope of an  
PT antibody specific for a yeast killer toxin, useful for treating microbial  
PT or viral infections.  
XX  
PS Disclosure; SEQ ID NO 28; 70pp; English.  
XX  
CC The invention comprises a polypeptide which contains a part of the  
CC variable region of an anti-idiotypic antibody which recognizes the  
CC idioctope of an antibody specific for a yeast killer toxin. The

CC polypeptide of the invention is useful for the treatment of microbial and  
CC viral infections, such as: candidosis, aspergillosis, cryptococcosis,  
CC mycobacteriosis, blastomycosis, histoplasmosis, thrush, tuberculousis,  
CC spirocheteriosis, respiratory infections, scarlet fever, pneumonia,  
CC impetigo, rheumatic fever, sepsis, septicaemia, cutaneous and visceral  
CC leishmaniasis, keratitis, cystic fibrosis, typhoid fever, gastroenteritis  
CC and haemolytic-uremic syndrome, flu, influenza or HIV/AIDS. The present  
CC amino acid sequence represents a peptide which was used as a control in  
CC the exemplification of the invention.

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 42; DB 8; Length 9;

Best Local Similarity 100.0%; Pred. No. 2e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9

Db 1 TSTTSLELD 9

RESULT 2

ADW9594

ID ADW9594 standard; peptide; 9 AA.

XX AC ADW9594;

DT 21-APR-2005 (first entry)

XX Human parathyroid hormone-related peptide PTR-4.

XX recombinant protein; cytostatic; vaccine; immune stimulation;

KW immunostimulatory; parathyroid hormone related peptide; tumor;

KW metastasis.

OS Homo sapiens.

XX US2005033023-A1.

PN 10-FEB-2005.

XX 21-OCT-2003; 2003US-00691125.

XX 21-OCT-2002; 2002US-0420165P.

XX (CORR/) CORREALE P.

PA (CUI/) CUSI M G.

PA (FRAN/) FRANCINI G.

XX Correale P, Cusi MG, Francini G;

PI WPI; 2005-151693/16.

XX Novel isolated immunostimulatory parathyroid hormone related peptide (PTH

XX -rP), useful for immunizing and treating subjects against metastases and

XX tumors.

XX Claim 2; SEQ ID NO 5; 35pp; English.

XX The invention relates to an isolated immunostimulatory parathyroid  
XX hormone related peptide (PTH-rP) (I) comprising a fragment of the amino  
XX acid sequence of a fully defined sequence (SI) of 141 amino acids as  
XX given in the specification, or its functional variant comprising one or  
XX more amino acid additions, substitution or deletions. (I) is useful for  
XX generating T cells active against PTH-rP expressing tumors and  
XX metastasis, which involves stimulating T cells in the presence of antigen  
XX presenting cells that have been exposed to (I). The antigen presenting  
XX cells have been infected with virosones containing PTH-rP plasmids,  
XX virosones encapsulating (I) or virosones comprising (I) crosslinked to  
XX its surface. (I) is useful for generating a T cell response specific for  
XX PTH-rP, which involves immunizing a subject with (I). The protein, an  
XX epitope from it, DNA encoding it, vectors and host cells are useful for  
XX inducing an immune response against PTH-rP expressing tumors and

CC metastasis, by immunization. They are useful for treating PTH-rP  
CC expressing tumors and metastasis, immunizing a subject against metastasis  
CC and tumors or for preventing the occurrence or recurrence of PTH-rP  
CC expressing tumors and metastasis. This sequence corresponds to a peptide  
CC from the human PTH-rP protein.

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 42; DB 9; Length 9;

Best Local Similarity 100.0%; Pred. No. 2e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9

Db 1 TSTTSLELD 9

RESULT 3

AAU77911

ID AAU77911 standard; peptide; 12 AA.

XX AC AAU77911;

XX 05-JUN-2002 (first entry)

XX Human PTHrP fragment (residues 128-139) resulting from secPHEX cleavage.

KW Human; bone-related disorder; osteogenesis; secPHEX; endopeptidase;

KW phosphate regulating gene; osteocalcin; teeth; bone mass; bone growth;

KW osteopenia; osteoporosis; rickets; X-linked hypophosphataemic rickets;

KW orthopaedic; osteopathic; dental intervention; PTHrP.

XX Homo sapiens.

XX WO200215918-A2.

XX 28-FEB-2002.

XX 23-AUG-2001; 2001WO-CA001220.

XX 23-AUG-2000; 2000US-0227012P.

XX (UYMO-) UNIV MONTREAL.

XX Boileau G;

XX WPI; 2002-280858/32.

XX Preventing or treating bone-related disorder or condition requiring  
XX osteogenesis in mammals, by administering secPHEX or its mutant, a  
XX substance that binds to osteocalcin or antibody specific to osteocalcin.

XX Disclosure; Fig 4; 52pp; English.

XX The present invention relates to a method for preventing or treating a  
XX bone-related disorder or condition that involves osteogenesis in mammals.  
XX The method comprises administering secPHEX (a phosphate regulating gene  
XX with homologues to Endopeptidases on the X chromosome), secPHEX851V, a  
XX substance capable of binding to osteocalcin, or an antibody specific to  
XX osteocalcin. PHEX activity can be increased by inhibiting osteocalcin.  
XX Since PHEX is generally associated with the growth plane of bone or teeth  
XX and the absence of osteocalcin with increased bone mass, potentiation of  
XX PHEX activity can promote bone growth. The invention also provides  
XX several new substrates for measuring PHEX enzyme activity. The method of  
XX the invention is useful for preventing or treating bone-related  
XX disorders, such as osteopenia, osteoporosis, rickets, X-linked  
XX hypophosphataemic rickets, and conditions such as orthopaedic and dental  
XX intervention. The present peptide sequence represents a human PTHrP  
XX fragment resulting from secPHEX cleavage

XX SQ Sequence 12 AA;

Query Match 100.0%; Score 42; DB 5; Length 12;

Best Local Similarity 100.0%; Pred. No. 0.15; Mismatches 0; Indels 0; Gaps 0;  
Matches 9; Conservative 0

Qy 1 TSTTSLELD 9  
| | | | |  
Db 2 TSTTSLELD 10

RESULT 4  
ADK98649 standard; peptide; 24 AA.  
XX ADK98649;  
XX  
XX  
XX 20-MAY-2004 (first entry)  
XX  
XX Parathyroid hormone related protein (PTHrP) related peptide seqid 5.  
XX  
XX cytostatic; antiasthmatic; hypotensive; hepatotropic;  
KW antiarteriosclerotic; uropathic; vasotropic;  
KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
KW retinoblastoma; p27kip1;  
KW smooth muscle cell proliferation-associated disorder;  
KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
KW systemic arterial hypertension; atherosclerosis; bladder disease;  
KW vascular restenosis; angioplasty.  
XX  
XX Homo sapiens.  
OS  
XX WO2004016151-A2.  
XX  
XX 26-FEB-2004.  
XX  
XX 13-AUG-2003; 2003WO-US025473.  
XX  
XX 15-AUG-2002; 2002US-0403805P.  
XX  
XX (OSTE-) OSTEOTROPIN LLC.  
XX  
XX Stewart AF, Fiaschi-Taesch N;  
XX  
XX WPI; 2004-192051/18.  
XX  
XX New compound comprising a parathyroid hormone-related protein (PTHrP)  
PT mutant polypeptide, useful for treating or preventing smooth muscle cell  
PT proliferation-associated disorders, such as atherosclerosis or bronchial  
PT asthma.  
XX  
XX Claim 46; SEQ ID NO 5; 100pp; English.  
XX  
XX The invention describes a compound comprising a parathyroid hormone-  
CC related protein (PTHrP) mutant polypeptide (I). (I) has the following  
CC characteristics: the compound lacks a functional nuclear localisation  
CC signal, or has a functional nuclear localisation signal and one or more  
CC modified amino acids in the region of PTHrP(112-139); overexpressing the  
CC compound in a vascular smooth muscle cell decreases the level of  
CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
CC level of phosphorylated immunoreactive retinoblastoma polypeptide  
CC observed in the absence of the compound; and overexpressing the compound  
CC in a vascular smooth muscle cell increases the level of immunoreactive  
CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1  
CC polypeptide observed in the absence of the compound. (I) is useful for  
CC treating or preventing a smooth muscle cell proliferation-associated  
CC disorder, particularly in humans, such as uterine fibroid tumours,  
CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
CC after angioplasty. (I) is also useful in the manufacture of a medicament  
CC for treating smooth muscle cell proliferation-associated disorders. This  
CC is the amino acid sequence of human parathyroid hormone related protein  
CC (PTHrP) residues 112-120 that can be deleted from human PTHrP in the  
CC creation of a mutant of the invention.

XX SQ Sequence 24 AA;  
Query Match 100.0%; Score 42; DB 8; Length 24;  
Best Local Similarity 100.0%; Pred. No. 0.33;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | |  
Db 14 TSTTSLELD 22

RESULT 5  
AAB91131  
ID AAB91131 standard; peptide; 32 AA.  
XX  
XX AAB91131;  
XX  
XX 22-JUN-2001 (first entry)  
XX  
XX Parathyroid hormone related protein (PTHrP) peptide SEQ ID NO:305.  
DE  
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;  
KW blood component; modification; succinimide; maleimido group; amino;  
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.  
XX  
XX Homo sapiens.  
OS  
XX Synthetic.  
XX  
XX WO200069900-A2.  
XX  
XX 23-NOV-2000.  
XX  
XX 17-MAY-2000; 2000WO-US013576.  
XX  
XX 17-MAY-1999; 99US-0134406P.  
PR  
XX 10-SEP-1999; 99US-0153406P.  
PR  
XX 15-OCT-1999; 99US-0159783P.  
PR  
XX (CONJ-) CONJUCHEM INC.  
XX  
XX Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;  
XX  
XX WPI; 2001-112059/12.  
XX  
XX Modifying and attaching therapeutic peptides to albumin prevents  
PT peptidase degradation, useful for increasing length of in vivo activity.  
XX  
XX Disclosure; Page 293-294; 733pp; English.  
XX  
XX The present invention describes a modified therapeutic peptide (I)  
CC comprising a therapeutically active amino acid region (III) and a  
CC reactive group (II) (e.g. succinimide and maleimido groups) attached to  
CC a less therapeutically active amino acid region (IV), which covalently  
CC bonds with amino/hydroxyl/thiol groups on blood components to form a  
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.  
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth  
CC factors and neurotransmitters, to protect them from peptidase activity in  
CC vivo for the treatment of various disorders. Endogenous therapeutic  
CC peptides are not suitable as drug candidates as they require frequent  
CC administration due to rapid degradation by peptidases in the body.  
CC Modifying and attaching therapeutic peptides to albumin prevents or  
CC reduces the action of peptidases to increase length of activity (half  
CC life) and specificity as bonding to large molecules decreases  
CC intracellular uptake and interference with physiological processes.  
CC AAB90829 to AAB92441 represent peptides which can be used in the  
CC exemplification of the present invention  
XX  
XX SQ Sequence 32 AA;  
Query Match 100.0%; Score 42; DB 4; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.45;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
QY      1 TSTTSLELD 9
Db      23 TSTTSLELD 31

RESULT 6
AAB91132
ID  AAB91132 standard; peptide; 33 AA.
XX
XX  AAB91132;
XX
XX  22-JUN-2001 (first entry)
XX
XX  Parathyroid hormone related protein (PTHrP) peptide SEQ ID NO:306.
XX
XX  Protection; endogenous therapeutic peptide; peptidase; conjugation;
XX  blood component; modification; succinimidy; maleimido group; amino;
XX  hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
XX  Homo sapiens.
XX  Synthetic.
XX
XX  WO200069900-A2.
XX
XX  23-NOV-2000.
XX
XX  17-MAY-2000; 2000WO-US013576.
XX
XX  17-MAY-1999; 99US-0134406P.
XX  10-SEP-1999; 99US-0153406P.
XX  15-OCT-1999; 99US-0159783P.
XX
XX  (CONJ-) CONJUCHEM INC.
XX
XX  Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX  WPI; 2001-112059/12.
XX
XX  Modifying and attaching therapeutic peptides to albumin prevents
XX  peptidase degradation, useful for increasing length of in vivo activity.
XX  Disclosure; Page 294; 733pp; English.
XX
XX  The present invention describes a modified therapeutic peptide (I)
XX  comprising a therapeutically active amino acid region (III) and a
XX  reactive group (II) (e.g. succinimidy and maleimido groups) attached to
XX  a less therapeutically active amino acid region (IV), which covalently
XX  bonds with amino/hydroxyl/thiol groups on blood components to form a
XX  peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
XX  (I) are useful for modifying therapeutic peptides e.g. hormones, growth
XX  factors and neurotransmitters, to protect them from peptidase activity in
XX  vivo for the treatment of various disorders. Endogenous therapeutic
XX  peptides are not suitable as drug candidates as they require frequent
XX  administration due to rapid degradation by peptidases in the body.
XX  Modifying and attaching therapeutic peptides to albumin prevents or
XX  reduces the action of peptidases to increase length of activity (half
XX  life) and specificity as bonding to large molecules decreases
XX  intracellular uptake and interference with physiological processes.
XX  AAB90829 to AAB92441 represent peptides which can be used in the
XX  exemplification of the present invention
XX
XX  Sequence 33 AA;
XX
XX  Query Match      100.0%; Score 42; DB 4; Length 33;
XX  Best Local Similarity 100.0%; Pred. No. 0.47;
XX  Matches      9; Conservative      0; Mismatches      0; Indels      0; Gaps      0;

QY      1 TSTTSLELD 9
Db      21 TSTTSLELD 29

RESULT 7
AAU77907
ID  AAU77907 standard; peptide; 33 AA.
XX
XX  AAU77907;
XX
XX  05-JUN-2002 (first entry)
XX
XX  Human PTHrP residues 107-139, useful as PHEX substrate.
XX
XX  Human; bone-related disorder; osteogenesis; secPHEX; endopeptidase;
XX  phosphate regulating gene; osteocalcin; teeth; bone mass; bone growth;
XX  osteopenia; osteoporosis; rickets; X-linked hypophosphataemic rickets;
XX  orthopaedic; osteopathic; dental intervention; PTHrP; PHEX substrate.
XX
XX  Homo sapiens.
XX
XX  Key      Location/Qualifiers
XX  Cleavage-site      6..7
XX  /label= secPHEX_cleavage_site
XX  Cleavage-site      21..22
XX  /label= secPHEX_cleavage_site
XX  Cleavage-site      30..31
XX  /label= secPHEX_cleavage_site
XX
XX  WO200215918-A2.
XX
XX  28-FEB-2002.
XX
XX  23-AUG-2001; 2001WO-CA001220.
XX
XX  23-AUG-2000; 2000US-0227012P.
XX
XX  (UYMO-) UNIV MONTREAL.
XX
XX  Boileau G;
XX  WPI; 2002-280858/32.
XX
XX  Preventing or treating bone-related disorder or condition requiring
XX  osteogenesis in mammals, by administering secPHEX or its mutant, a
XX  substance that binds to osteocalcin or antibody specific to osteocalcin.
XX  Disclosure; Fig 4; 52pp; English.
XX
XX  The present invention relates to a method for preventing or treating a
XX  bone-related disorder or condition that involves osteogenesis in mammals.
XX  The method comprises administering secPHEX (a phosphate regulating gene
XX  with homologies to Endopeptidases on the X chromosome), secPHEX891V, a
XX  substance capable of binding to osteocalcin, or an antibody specific to
XX  osteocalcin. PHEX activity can be increased by inhibiting osteocalcin.
XX  Since PHEX is generally associated with the growth plane of bone or teeth
XX  and the absence of osteocalcin with increased bone mass, potentiation of
XX  PHEX activity can promote bone growth. The invention also provides
XX  several new substrates for measuring PHEX enzyme activity. The method of
XX  the invention is useful for preventing or treating bone-related
XX  disorders, such as osteopenia, osteoporosis, rickets, X-linked
XX  hypophosphataemic rickets, and conditions such as orthopaedic and dental
XX  intervention. The present peptide sequence representing human PTHrP
XX  residues 107-139 is useful as a PHEX substrate
XX
XX  Sequence 33 AA;
XX
XX  Query Match      100.0%; Score 42; DB 5; Length 33;
XX  Best Local Similarity 100.0%; Pred. No. 0.47;
XX  Matches      9; Conservative      0; Mismatches      0; Indels      0; Gaps      0;

QY      1 TSTTSLELD 9
Db      23 TSTTSLELD 31

RESULT 8
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ADK98653  
 XX ADK98653 standard; peptide; 33 AA.  
 XX AC ADK98653;  
 XX DT 20-MAY-2004 (first entry)  
 XX DE Parathyroid hormone related protein (PTHrP) related peptide seqid 9.  
 XX KW cytosolic; antiasthmatic; hypotensive; hepatotropic;  
 KW antiarteriosclerotic; uropathic; vasotropic;  
 KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
 KW retinoblastoma; p27kip1;  
 KW smooth muscle cell proliferation-associated disorder;  
 KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
 KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
 KW systemic arterial hypertension; atherosclerosis; bladder disease;  
 KW vascular restenosis; angioplasty.  
 XX OS Homo sapiens.  
 XX PN WO2004016151-A2.  
 XX PD 26-FEB-2004.  
 XX PF 13-AUG-2003; 2003WO-US025473.  
 XX PR 15-AUG-2002; 2002US-0403805P.  
 XX PA (OSTE-) OSTEOTROPHIN LLC.  
 XX PI Stewart AF, Fiaschi-Taesch N;  
 XX WPI; 2004-192051/18.  
 XX DR New compound comprising a parathyroid hormone-related protein (PTHrP)  
 PT mutant polypeptide, useful for treating or preventing smooth muscle cell  
 PT proliferation-associated disorders, such as atherosclerosis or bronchial  
 PT asthma.  
 XX PS Claim 46; SEQ ID NO 9; 100pp; English.  
 XX CC The invention describes a compound comprising a parathyroid hormone-  
 CC related protein (PTHrP) mutant polypeptide (I). (I) has the following  
 CC characteristics: the compound lacks a functional nuclear localisation  
 CC signal, or has a functional nuclear localisation signal and one or more  
 CC modified amino acids in the region of PTHrP(112-139); overexpressing the  
 CC compound in a vascular smooth muscle cell decreases the level of  
 CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
 CC level of phosphorylated immunoreactive retinoblastoma polypeptide  
 CC observed in the absence of the compound; and overexpressing the compound  
 CC in a vascular smooth muscle cell increases the level of immunoreactive  
 CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1  
 CC polypeptide observed in the absence of the compound. (I) is useful for  
 CC treating or preventing a smooth muscle cell proliferation-associated  
 CC disorder, particularly in humans, such as uterine fibroid tumours,  
 CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
 CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
 CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
 CC after angioplasty. (I) is also useful in the manufacture of a medicament  
 CC for treating smooth muscle cell proliferation-associated disorders. This  
 CC is the amino acid sequence of a human parathyroid hormone related protein  
 CC (PTHrP) peptide comprising substitutions that can be introduced to the  
 CC PTHrP mutant of the invention.  
 XX SQ Sequence 33 AA;  
 XX Query Match 100.0%; Score 42; DB 8; Length 33;  
 XX Best Local Similarity 100.0%; Pred. No. 0.47;  
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TSTTSLELD 9  
 |||||

Db 23 TSTTSLELD 31  
 RESULT 9  
 ADK98658  
 ID ADK98658 standard; protein; 33 AA.  
 XX AC ADK98658;  
 XX DT 20-MAY-2004 (first entry)  
 XX DE Human parathyroid hormone related protein (PTHrP) C-terminus.  
 XX KW cytosolic; antiasthmatic; hypotensive; hepatotropic;  
 KW antiarteriosclerotic; uropathic; vasotropic;  
 KW parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;  
 KW retinoblastoma; p27kip1;  
 KW smooth muscle cell proliferation-associated disorder;  
 KW uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;  
 KW portal hypertension; cirrhosis; pulmonary arterial hypertension;  
 KW systemic arterial hypertension; atherosclerosis; bladder disease;  
 KW vascular restenosis; angioplasty.  
 XX OS Homo sapiens.  
 XX PN WO2004016151-A2.  
 XX PD 26-FEB-2004.  
 XX PF 13-AUG-2003; 2003WO-US025473.  
 XX PR 15-AUG-2002; 2002US-0403805P.  
 XX PA (OSTE-) OSTEOTROPHIN LLC.  
 XX PI Stewart AF, Fiaschi-Taesch N;  
 XX WPI; 2004-192051/18.  
 XX DR New compound comprising a parathyroid hormone-related protein (PTHrP)  
 PT mutant polypeptide, useful for treating or preventing smooth muscle cell  
 PT proliferation-associated disorders, such as atherosclerosis or bronchial  
 PT asthma.  
 XX PS Disclosure; SEQ ID NO 4; 100pp; English.  
 XX CC The invention describes a compound comprising a parathyroid hormone-  
 CC related protein (PTHrP) mutant polypeptide (I). (I) has the following  
 CC characteristics: the compound lacks a functional nuclear localisation  
 CC signal, or has a functional nuclear localisation signal and one or more  
 CC modified amino acids in the region of PTHrP(112-139); overexpressing the  
 CC compound in a vascular smooth muscle cell decreases the level of  
 CC phosphorylated immunoreactive retinoblastoma polypeptide compared to the  
 CC level of phosphorylated immunoreactive retinoblastoma polypeptide  
 CC observed in the absence of the compound; and overexpressing the compound  
 CC in a vascular smooth muscle cell increases the level of immunoreactive  
 CC p27kip1 polypeptide compared to the level of immunoreactive p27kip1  
 CC polypeptide observed in the absence of the compound. (I) is useful for  
 CC treating or preventing a smooth muscle cell proliferation-associated  
 CC disorder, particularly in humans, such as uterine fibroid tumours,  
 CC prostatic hypertrophy, bronchial asthma, portal hypertension in  
 CC cirrhosis, pulmonary arterial hypertension, systemic arterial  
 CC hypertension, atherosclerosis, bladder disease, and vascular restenosis  
 CC after angioplasty. (I) is also useful in the manufacture of a medicament  
 CC for treating smooth muscle cell proliferation-associated disorders. This  
 CC is the amino acid sequence of a human parathyroid hormone related protein  
 CC (PTHrP) C-terminus.  
 XX SQ Sequence 33 AA;  
 XX Query Match 100.0%; Score 42; DB 8; Length 33;  
 XX Best Local Similarity 100.0%; Pred. No. 0.47;  
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY      1 TSTTSLELD 9
      |||||
Db      23 TSTTSLELD 31

RESULT 10
ID      ADK98656 standard; peptide; 33 AA.
XX
AC      ADK98656;
XX
XX
XX      20-MAY-2004 (first entry)
XX
XX      Parathyroid hormone related protein (PTHrP) related peptide seqid 12.
XX
XX      cytostatic; antiasthmatic; hypotensive; hepatotropic;
XX      antiarteriosclerotic; uropathic; vasotropic;
XX      parathyroid hormone-related protein; PTHrP; vascular smooth muscle cell;
XX      retinoblastoma; p27kip1;
XX      smooth muscle cell proliferation-associated disorder;
XX      uterine fibroid tumour; prostatic hypertrophy; bronchial asthma;
XX      portal hypertension; cirrhosis; pulmonary arterial hypertension;
XX      systemic arterial hypertension; atherosclerosis; bladder disease;
XX      vascular restenosis; angioplasty.
XX
XX      Homo sapiens.
OS
XX
XX      WO2004016151-A2.
XX      FN
XX
XX      26-FEB-2004.
XX      PD
XX
XX      13-AUG-2003; 2003WO-US025473.
XX      PF
XX
XX      15-AUG-2002; 2002US-0403805P.
XX      PR
XX
XX      (OSTE-) OSTEOTROPHIN LLC.
XX      PA
XX
XX      Stewart AF, Fiaschi-Taesch N;
XX      WPI; 2004-192051/18.
XX
XX      New compound comprising a parathyroid hormone-related protein (PTHrP)
XX      mutant polypeptide, useful for treating or preventing smooth muscle cell
XX      proliferation-associated disorders, such as atherosclerosis or bronchial
XX      asthma.
XX
XX      Claim 46; SEQ ID NO 12; 100pp; English.
XX
XX      The invention describes a compound comprising a parathyroid hormone-
XX      related protein (PTHrP) mutant polypeptide (I). (I) has the following
XX      characteristics: the compound lacks a functional nuclear localisation
XX      signal, or has a functional nuclear localisation signal and one or more
XX      modified amino acids in the region of PTHrP(112-139); overexpressing the
XX      compound in a vascular smooth muscle cell decreases the level of
XX      phosphorylated immunoreactive retinoblastoma polypeptide compared to the
XX      level of phosphorylated immunoreactive retinoblastoma polypeptide
XX      observed in the absence of the compound; and overexpressing the compound
XX      in a vascular smooth muscle cell increases the level of immunoreactive
XX      p27kip1 polypeptide compared to the level of immunoreactive p27kip1
XX      polypeptide observed in the absence of the compound. (I) is useful for
XX      treating or preventing a smooth muscle cell proliferation-associated
XX      disorder, particularly in humans, such as uterine fibroid tumours,
XX      prostatic hypertrophy, bronchial asthma, portal hypertension in
XX      cirrhosis, pulmonary arterial hypertension, systemic arterial
XX      hypertension, atherosclerosis, bladder disease, and vascular restenosis
XX      after angioplasty. (I) is also useful in the manufacture of a medicament
XX      for treating smooth muscle cell proliferation-associated disorders. This
XX      is the amino acid sequence of a human parathyroid hormone related protein
XX      (PTHrP) peptide comprising substitutions that can be introduced to the
XX      PTHrP mutant of the invention.
XX
XX      Sequence 33 AA;
SQ

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Query Match      100.0%; Score 42; DB 8; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
      |||||
Db      23 TSTTSLELD 31

RESULT 11
AAR26411
ID      AAR26411 standard; peptide; 34 AA.
XX
XX      AAR26411;
AC
XX
XX      10-MAR-2003 (revised)
XX      03-MAR-1993 (first entry)
XX
XX      C-terminal PTHrP peptide fragment.
XX
XX      Parathyroid hormone related protein; immunoassay; humoral;
XX      hypercalcaemia; malignancy; HHM; diagnosis.
XX
XX      Homo sapiens.
OS
XX
XX      JF04244100-A.
XX      PN
XX
XX      01-SEP-1992.
XX      PD
XX
XX      30-JAN-1991; 91JP-00027740.
XX      PF
XX
XX      30-JAN-1991; 91JP-00027740.
XX      PR
XX
XX      (DARA ) DAIICHI RADIOISOTOPE KENKYUSHO.
XX      PA
XX
XX      WPI; 1992-337754/41.
XX      DR
XX
XX      Parathyroid hormone related protein immunoassay - comprise reaction with
XX      antibody recognising protein C terminal, and detecting antibody-antigen
XX      reaction.
XX      PT
XX
XX      Disclosure; Page 2; 8pp; Japanese.
XX      PS
XX
XX      The peptide shows the C-terminal sequence of parathyroid hormone related
XX      protein. An antibody raised against this peptide may be used in an
XX      immunoassay to detect levels of PTHrP in a sample. The assay may be
XX      performed on healthy people or on those suffering from humoral
XX      hypercalcaemia of malignancy (HHM). Th assay value from HHM is higher,
XX      thus providing a means of diagnosis of HHM. (Updated on 10-MAR-2003 to
XX      add missing OS field.)
XX      CC
XX
XX      Sequence 34 AA;
SQ

```

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```

Query Match      100.0%; Score 42; DB 2; Length 34;
Best Local Similarity 100.0%; Pred. No. 0.48;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
      |||||
Db      22 TSTTSLELD 30

RESULT 12
AAR41539
ID      AAR41539 standard; protein; 56 AA.
XX
XX      AAR41539;
AC
XX
XX      13-OCT-1993 (first entry)
XX      DT
XX
XX      Synthetic PTHLP gene amino acids 86-141.
XX      DE
XX
XX
SQ

```



KW Parathyroid hormone-like protein; PTH-like protein.

OS Synthetic.

PN US5217896-A.

XX PD 08-JUN-1993.

XX PF 30-DEC-1988; 88US-00292263.

XX PR 30-DEC-1988; 88US-00292263.

XX PA (ONCO-) ONCOGENE SCI INC.

XX PI Kramer SP, Valenzuela DM, Reynolds FH, Sorvillo JM;

XX DR WPI, 1993-196249/24.

XX DR N-PSDB; AAQ43596.

XX PT Monoclonal antibody produced by hybridomas 212-10.7, 199-999 or 199-278 - binds to parathyroid hormone-like protein, for detecting PTHLP and diagnosing and treating humoral hypercalcaemia of malignancy.

XX PS Example; Fig 1C; 20pp; English.

XX CC The sequence is that of parathyroid hormone-like protein (PTHLP) amino acids 86-141 which are encoded by a 183 bp PTHLP BamHI-SalI fragment, CC segment "c", which was used in the construction of a synthetic PTHLP gene

XX SQ Sequence 56 AA;

Query Match 100.0%; Score 42; DB 2; Length 56;  
Best Local Similarity 100.0%; Pred. No. 0.83;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 TSTTSLELD 9

Db 44 TSTTSLELD 52

RESULT 13

AA06980

ID AAR06980 standard; protein; 79 AA.

XX AC AAR06980;

XX DT 15-JAN-1991 (first entry)

XX DE PTHrP(B) polypeptide which inhibits parathyroid hormone related peptide (PTHrP) activity.

XX KW Hypercalcaemia; osteoporosis; calcium metabolism.

XX OS Homo sapiens.

XX PN JP02207099-A.

XX PD 16-AUG-1990.

XX PF 07-FEB-1989; 89JP-00028023.

XX PR 07-FEB-1989; 89JP-00028023.

XX PA (TOFU) TONEN CORP.

XX WPI; 1990-294318/39.

XX DR N-PSDB; AAQ05346.

XX PT Prepn. of pthrp related peptide for e.g. osteoporosis treatment - by transforming and cultivating E.coli with required vector.

XX PS Disclosure; Fig 3; 11pp; Japanese.

CC Product is from a portion of the PTHrP gene, carried on plasmid pUCPTHrP(B) used to transform an E.coli expression system. The product may be used for treatment of hypercalcaemia, osteoporosis and other abnormalities of the calcium metabolism

XX SQ Sequence 79 AA;

Query Match 100.0%; Score 42; DB 2; Length 79;

Best Local Similarity 100.0%; Pred. No. 1.2;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 TSTTSLELD 9

Db 67 TSTTSLELD 75

RESULT 14

AAE23744

ID AAE23744 standard; protein; 133 AA.

XX AC AAE23744;

XX DT 10-SEP-2002 (first entry)

XX DE Human parathyroid related peptide, PTHrP (7-139) .

XX KW Human parathyroid hormone; hPTH; PTH-related peptide; PTHrP; eczema; hyperproliferative skin disorder; psoriasis; ichthyosis; skin cancer; acne; actinic keratosis; alopecia; gene therapy.

XX OS Homo sapiens.

XX PN WO200228420-A2.

XX PD 11-APR-2002.

XX PF 05-OCT-2001; 2001WO-US031082.

XX PR 06-OCT-2000; 2000US-0238134P.

XX PA (HOLI/) HOLICK M F.

XX PI Holick MF;

XX WPI; 2002-454495/48.

XX DR N-PSDB; AAD37997.

XX PT Regulating mammalian skin or hair cell proliferation and differentiation by administering nucleic acids encoding peptides derived from N-terminal region of human parathyroid hormone (hPTH) or hPTH-related protein.

XX PS Claim 35; Fig 44; 56pp; English.

XX CC The invention relates to a method for regulating proliferation or enhancing differentiation of mammalian skin or hair cell. The method involves administering nucleic acids encoding peptides derived from N-terminal region of human parathyroid hormone (hPTH) or hPTH-related peptide (PTHrP). The method is used for inhibiting hyperproliferative skin disorders such as psoriasis, ichthyosis, eczema, acne, actinic keratosis, skin cancer, for inhibiting hair growth or preventing hair regrowth. It is useful for stimulating cell growth, rejuvinating aged skin, preventing skin wrinkles, treating skin wrinkles, enhancing wound healing, stimulating hair growth, maintaining hair growth, treating or preventing female or male pattern baldness, for treating chemotherapy induced alopecia and also for stimulating epidermal cell growth or hair follicle cell growth. The method is also used in gene therapy. The present sequence is hPTHrP peptide

XX SQ Sequence 133 AA;

Query Match 100.0%; Score 42; DB 5; Length 133;

Best Local Similarity 100.0%; Pred. No. 2.1;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
 Db 123 TSTTSLELD 131

## RESULT 15

AAE23745  
 ID AAE23745 standard; protein; 135 AA.

XX AC AAE23745;

XX 10-SEP-2002 (first entry)

XX Human parathyroid related peptide, PTHrP (7-141).

XX Human parathyroid hormone; hPTH; PTH-related peptide; PTHrP; eczema;  
 KW hyperproliferative skin disorder; psoriasis; ichthyosis; skin cancer;  
 KW acne; actinic keratosis; alopecia; gene therapy.

XX Homo sapiens.

XX WO200228420-A2.

XX 11-APR-2002.

XX 05-OCT-2001; 2001WO-US031082.

XX 06-OCT-2000; 2000US-0238134P.

XX (HOLI/) HOLICK M F.

XX Holick MF;

XX WPI; 2002-454495/48.

XX N-PSDB; AAD37997.

XX Regulating mammalian skin or hair cell proliferation and differentiation  
 PT by administering nucleic acids encoding peptides derived from N-terminal  
 PT region of human parathyroid hormone (hPTH) or hPTH-related protein.

XX Claim 35; Fig 45; 56pp; English.

XX The invention relates to a method for regulating proliferation or  
 CC enhancing differentiation of mammalian skin or hair cell. The method  
 CC involves administering nucleic acids encoding peptides derived from N-  
 CC terminal region of human parathyroid hormone (hPTH) or hPTH-related  
 CC peptide (PTHrP). The method is used for inhibiting hyperproliferative  
 CC skin disorders such as psoriasis, ichthyosis, eczema, acne, actinic  
 CC keratosis, skin cancer, for inhibiting hair growth or preventing hair  
 CC regrowth. It is useful for stimulating cell growth, rejuvenating aged  
 CC skin, preventing skin wrinkles, treating skin wrinkles, enhancing wound  
 CC healing, stimulating hair growth, maintaining hair growth, treating or  
 CC preventing female or male pattern baldness, for treating chemotherapy  
 CC induced alopecia and also for stimulating epidermal cell growth or hair  
 CC follicle cell growth. The method is also used in gene therapy. The  
 CC present sequence is hPTHrP peptide

XX Sequence 135 AA;

Query Match 100.0%; Score 42; DB 5; Length 135;

Best Local Similarity 100.0%; Pred. No. 2.2; 0; Indels 0; Gaps 0;  
 Matches 9; Conservative 0; Mismatches 0

QY 1 TSTTSLELD 9  
 Db 123 TSTTSLELD 131

Search completed: December 2, 2005, 23:27:52  
 Job time : 25.8764 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 23:04:13 ; Search time 3.94382 Seconds  
(without alignments)  
219.572 Million cell updates/sec

Title: US-10-691-125-5

Perfect score: 42

Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 20000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR\_80.\*

1: Pirl.\*

2: Pirl2.\*

3: Pirl3.\*

4: Pirl4.\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	177	1 PTHU2L	parathyroid hormon
2	42	100.0	209	1 PTHU3L	parathyroid hormon
3	32	76.2	237	2 T40603	hypothetical prote
4	32	76.2	345	2 T32203	hypothetical prote
5	32	76.2	372	2 B89898	LytN protein [impo
6	32	76.2	651	2 A55100	SEC9 protein - yea
7	31	73.8	144	2 T05312	hypothetical prote
8	31	73.8	147	2 F83801	chorismate mutase
9	31	73.8	339	2 T20960	hypothetical prote
10	31	73.8	412	1 AJMSRS	argininosuccinate
11	31	73.8	474	2 S30168	mercury(II) reduct
12	31	73.8	583	2 C69158	sensory transducti
13	31	73.8	973	2 A85055	probable leucyl tr
14	31	73.8	1312	1 BMBYDL	RAD50 protein - ye
15	31	73.8	2809	2 T30213	G-cadherin - sea u
16	30	71.4	151	2 D84495	hypothetical prote
17	30	71.4	162	2 F82493	hypothetical prote
18	30	71.4	253	2 T33533	hypothetical prote
19	30	71.4	265	2 T02138	hypothetical prote
20	30	71.4	271	2 B96773	hypothetical prote
21	30	71.4	305	2 T01248	hypothetical prote
22	30	71.4	460	2 B85079	hypothetical prote
23	30	71.4	522	2 S75491	hypothetical prote
24	30	71.4	571	2 H84798	hypothetical prote
25	30	71.4	587	2 C71889	probable outer mem
26	30	71.4	644	2 T34879	probable integral
27	30	71.4	840	2 A87639	TonB-dependent rec
28	30	71.4	880	2 AF2128	hypothetical prote
29	30	71.4	1306	2 T13592	hypothetical prote

ALIGNMENTS

RESULT 1

PTHU2L

parathyroid hormone-related protein precursor, splice form 2 - human

N;Alternate names: parathyroid hormone-like protein

C;Contains: parathyroid hormone-related protein, splice form 1; parathyroid hormone-rela-

C;Species: Homo sapiens (man)

C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text change 09-Jul-2004

C;Accession: A33360; B33360; A28120; A94295; B94295; A36166; A91606; A28034; A36512; J50

R;Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.

J. Biol. Chem. 264, 7720-7725, 1989

A;Title: Characterization of the human parathyroid hormone-like peptide gene. Functional

A;Reference number: A33360; MUID:89214227; PMID:2708388

A;Accession: A33360

A;Molecule type: DNA

A;Residues: 1-175 <YAS>

A;Cross-references: UNIPROT:P12272; UNIPARC:UPI000002B1CC; GB:M24349; GB:J04710; NID:g19

A;Accession: B33360

A;Molecule type: DNA

A;Residues: 176-177 <YAS2>

A;Cross-references: UNIPARC:UPI00001734EA; GB:J04710

R;Mangin, M.; Webb, A.C.; Dreyer, B.E.; Posillico, J.T.; Ikeda, K.; Weir, E.C.; Stewart,

Proc. Natl. Acad. Sci. U.S.A. 85, 597-601, 1988

A;Title: Identification of a cDNA encoding a parathyroid hormone-like peptide from a hum

A;Reference number: A28120; MUID:88124888; PMID:2829195

A;Accession: A28120

A;Molecule type: mRNA

A;Residues: 1-177 <MAN>

A;Cross-references: UNIPARC:UPI0000047E25; EMBL:J03580

R;Suva, L.J.; Winslow, G.A.; Wettenhall, R.E.H.; Hammonds, R.G.; Moseley, J.M.; Diefenba

Science 237, 893-896, 1987

A;Title: A parathyroid hormone-related protein implicated in malignant hypercalcemia; cl

A;Reference number: A94295; MUID:87292119; PMID:3616618

A;Accession: A94295

A;Molecule type: mRNA

A;Residues: 1-177 <SUW1>

A;Cross-references: UNIPARC:UPI0000047E25; GB:M17183; NID:g190725; PIDN:AAA60221.1; PID:

A;Accession: B94295

A;Molecule type: protein

A;Residues: 37-70,'X','X','72-84,'X','86;103-115 <SUW2>

A;Cross-references: UNIPARC:UPI00001734EB; UNIPARC:UPI00001734EC

R;Thiede, M.A.; Screwler, G.J.; Nissensohn, R.A.; Rosenblatt, M.; Rodan, G.A.

Proc. Natl. Acad. Sci. U.S.A. 85, 4605-4609, 1988

A;Title: Human renal carcinoma expresses two messages encoding a parathyroid hormone-lik

A;Reference number: A36166; MUID:88262996; PMID:3290897

A;Accession: A36166

A;Molecule type: mRNA

A;Residues: 1-175 <THI>

A;Cross-references: UNIPARC:UPI000002B1CC; GB:J03802; NID:g190717; PIDN:AAA60218.1; PID:

R;Suva, L.J.; Mather, K.A.; Gillespie, M.T.; Webb, G.C.; Ng, K.W.; Winslow, G.A.; Wood,

Gene 77, 95-105, 1989

A;Title: Structure of the 5' flanking region of the gene encoding human parathyroid-horm

A;Reference number: A91606; MUID:89306685; PMID:2744490

A;Accession: A91606  
A;Molecule type: DNA  
A;Residues: 1-34 <SVU3>  
A;Cross-references: UNIPARC:UPI000016AF38; EMBL:X14304; NID:g35776; PIDN:CAA32480.1; PIDN:CAA37600.1  
R;Moseley, J.M.; Kubota, M.; Diefenbach-Jagger, H.; Wattenhall, R.E.H.; Kemp, B.E.; Suva  
Proc. Natl. Acad. Sci. U.S.A. 84, 5048-5052, 1987  
A;Title: Parathyroid hormone-related protein purified from a human lung cancer cell line  
A;Reference number: A28034; MUID:87260926; PMID:2885845  
A;Accession: A28034  
A;Molecule type: protein  
A;Residues: 37-52 <MOS>  
A;Cross-references: UNIPARC:UPI00001734ED  
C;Comment: This hormone stimulates an increase of cyclic AMP levels in osteoblasts and c  
ay a role in fetal calcium metabolism.  
C;Genetics:  
A;Gene: GDB:PTH1H  
A;Cross-references: GDB:120323; OMIM:168470  
A;Map position: 12p12.1-12p11.2  
A;Introns: 34/2  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C;Keywords: alternative splicing; hormone; humoral hypercalcemia  
F;1-24/Domain: signal sequence #status predicted <SIG>  
F;25-36/Domain: propeptide #status predicted <PRO>  
F;35-69/Domain: parathyroid hormone homology <PTH>  
F;37-177/Product: parathyroid hormone-related peptide, splice form 2 #status predicted <  
F;37-175/Product: parathyroid hormone-related peptide, splice form 1 #status predicted <  
Query Match 100.0%; Score 42; DB 1; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.099;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
DB 165 TSTTSLELD 173  
|||||  
RESULT 2  
PTHU3L  
parathyroid hormone-related protein precursor, splice form 3 - human  
A;Alternate names: parathyroid hormone-like protein  
C;Species: Homo sapiens (man)  
C;Date: 31-Mar-1993 #sequence\_revision 31-Mar-1993 #text\_change 09-Jul-2004  
C;Accession: C33360; A32756  
R;Yasuda, T.; Banville, D.; Hendy, G.N.; Goltzman, D.  
J. Biol. Chem. 264, 7720-7725, 1989  
A;Title: Characterization of the human parathyroid hormone-like peptide gene. Functional  
A;Reference number: A33360; MUID:89214227; PMID:2708388  
A;Accession: C33360  
A;Molecule type: DNA  
A;Residues: 1-209 <VAS>  
A;Cross-references: UNIPROT:P12272; UNIPROT:Q15251; UNIPARC:UPI000002B1CD; GB:M24350; GB  
R;Mangin, M.; Ikeda, K.; Dreyer, B.E.; Broadus, A.E.  
Proc. Natl. Acad. Sci. U.S.A. 86, 2408-2412, 1989  
A;Title: Isolation and characterization of the human parathyroid hormone-like peptide ge  
A;Reference number: A32756; MUID:89184636; PMID:2928340  
A;Accession: A32756  
A;Molecule type: DNA  
A;Residues: 176-209 <MAN>  
A;Cross-references: UNIPARC:UPI0000035191; GB:M34071; NID:g190715; PIDN:AAA60217.1; PIDN:  
C;Comment: This hormone causes humoral hypercalcemia of malignancy when secreted by cert  
C;Genetics:  
A;Gene: GDB:PTH1H  
A;Cross-references: GDB:120323; OMIM:168470  
A;Map position: 12p12.1-12p11.2  
A;Introns: 34/2; 175/2  
C;Superfamily: parathyroid hormone-related protein; parathyroid hormone homology  
C;Keywords: alternative splicing; hormone; humoral hypercalcemia  
F;1-24/Domain: signal sequence #status predicted <SIG>  
F;25-36/Domain: propeptide #status predicted <PRO>  
F;35-69/Domain: parathyroid hormone homology <PTH>  
F;37-209/Product: parathyroid hormone-related protein, splice form 3 #status predicted <  
Query Match 100.0%; Score 42; DB 1; Length 209;

Best Local Similarity 100.0%; Pred. No. 0.12;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
DB 165 TSTTSLELD 173  
|||||  
RESULT 3  
T40603  
hypothetical protein SPBC651.04 - fission yeast (Schizosaccharomyces pombe)  
C;Species: Schizosaccharomyces pombe  
C;Date: 03-Dec-1999 #sequence\_revision 03-Dec-1999 #text\_change 09-Jul-2004  
C;Accession: T40603  
R;Wood, V.; Rajandream, M.A.; Barrell, B.G.; Volckaert, G.  
submitted to the EMBL Data Library, February 1999  
A;Reference number: Z21940  
A;Accession: T40603  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: DNA  
A;Residues: 1-237 <WOO>  
A;Cross-references: UNIPROT:O94652; UNIPARC:UPI000006C72E; EMBL:AL035570; PIDN:CAB37600.1  
A;Experimental source: strain 972h-; cosmid c651  
C;Genetics:  
A;Gene: SPDB:SPBC651.04  
A;Map position: 2  
C;Superfamily: Schizosaccharomyces pombe hypothetical protein SPBC651.04  
Query Match 76.2%; Score 32; DB 2; Length 237;  
Best Local Similarity 66.7%; Pred. No. 22;  
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
DB 85 TSTPMQLD 93  
|||||  
RESULT 4  
T32203  
hypothetical protein T02B11.5 - Caenorhabditis elegans  
C;Species: Caenorhabditis elegans  
C;Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 09-Jul-2004  
C;Accession: T32203  
R;Goela, D.  
submitted to the EMBL Data Library, September 1997  
A;Description: The sequence of C. elegans cosmid T02B11.  
A;Reference number: Z21135  
A;Accession: T32203  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: DNA  
A;Residues: 1-345 <GOE>  
A;Cross-references: UNIPROT:O16975; UNIPARC:UPI000017BB44; EMBL:AF022979; PIDN:AAB69906.1  
A;Experimental source: strain Bristol N2; clone T02B11  
C;Genetics:  
A;Gene: CESP:T02B11.5  
A;Map position: 5  
A;Introns: 68/3; 197/2; 237/3; 294/2; 343/3  
Query Match 76.2%; Score 32; DB 2; Length 345;  
Best Local Similarity 100.0%; Pred. No. 34;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLE 7  
DB 332 TSTTSLE 338  
|||||  
RESULT 5  
B89898  
LycN protein [imported] - Staphylococcus aureus (strain N315)  
C;Species: Staphylococcus aureus  
C;Date: 10-May-2001 #sequence\_revision 10-May-2001 #text\_change 09-Jul-2004  
C;Accession: B89898

R.; Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; Oguma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, K.; C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.  
Lancet 357, 1225-1240, 2001

A;Title: Whole genome sequencing of methicillin-resistant *Staphylococcus aureus*.

A;Reference number: A89756; MUID:21311952; PMID:11418146

A;Accession: B89898

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-372 <KUR>

A;Cross-references: UNIPROT:Q99UM3; UNIPARC:UPI00000D76C5; GB:BA000018; PID:g13701047; F

A;Experimental source: strain N315

C;Genetics:

A;Gene: lytN

Query Match 76.2%; Score 32; DB 2; Length 372;  
Best Local Similarity 77.8%; Pred. No. 38;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9

||| |||||

Db 80 TSDTSLKLD 88

RESULT 6

A55100

SPC9 protein - Yeast (*Saccharomyces cerevisiae*)

N;Alternate names: protein G3860; protein YGR009C

C;Species: *Saccharomyces cerevisiae*

C;Date: 06-Jan-1995 #sequence\_revision 06-Jan-1995 #text\_change 09-Jul-2004

C;Accession: A55100; S64298; S48526

R;Brennwald, P.; Kearns, B.; Champion, K.; Keraenen, S.; Bankaitis, V.; Novick, P.

Cell 79, 245-258, 1994

A;Title: Sec9 is a SNAP-25-like component of a yeast SNARE complex that may be the effec

A;Reference number: A55100; MUID:95042722; PMID:7954793

A;Accession: A55100

A;Molecule type: DNA

A;Residues: 1-651 <BRE>

A;Cross-references: UNIPROT:P40357; UNIPARC:UPI000013575B; EMBL:L34336; NID:g508619; PID

R;Hebling, U.; Hofmann, B.; Dellus, H.

submitted to the Protein Sequence Database, May 1996

A;Reference number: S64003

A;Accession: S64298

A;Molecule type: DNA

A;Residues: 1-651 <HEB>

A;Cross-references: UNIPARC:UPI000013575B; EMBL:Z72794; NID:g1322968; PID:e243918; PID:9

A;Experimental source: strain S288C

C;Genetics:

A;Gene: SGD:SEC9; HSS7

A;Cross-references: SGD:S0003241; MIPS:YGR009C

A;Map position: 7R

C;Function:

A;Description: required for post-Golgi transport

C;Keywords: transmembrane protein

Query Match 76.2%; Score 32; DB 2; Length 651;  
Best Local Similarity 77.8%; Pred. No. 72;  
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9

||| |||||

Db 209 TSTNSLSLD 217

RESULT 7

T05312

hypothetical protein F26P21.160 - *Arabidopsis thaliana*

C;Species: *Arabidopsis thaliana* (mouse-ear cress)

C;Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004

C;Accession: T05312

R;Bevan, M.; Terry, N.; Ardiles, W.; Buysaert, C.; Dasseville, R.; De Clerck, R.; De

ewes, H.W.; Mayer, K.F.X.; Schueller, C.

submitted to the Protein Sequence Database, October 1998

A;Reference number: Z15407

A;Accession: T05312

A;Molecule type: DNA

A;Residues: 1-144 <BEV>

A;Cross-references: UNIPROT:O82644; UNIPARC:UPI00000A6C63; EMBL:AL031804

A;Experimental source: cultivar Columbia; BAC clone F26P21

C;Genetics:

A;Map position: 4

A;Note: F26P21.160

Query Match 73.8%; Score 31; DB 2; Length 144;  
Best Local Similarity 66.7%; Pred. No. 21;  
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9

||| |||||

Db 25 TSTSLSID 33

RESULT 8

F83801

chorismate mutase pheB [imported] - *Bacillus halodurans* (strain C-125)

C;Species: *Bacillus halodurans*

C;Date: 01-Dec-2000 #sequence\_revision 01-Dec-2000 #text\_change 12-Jul-2004

C;Accession: F83801

R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Hirai,

Nucleic Acids Res. 28, 4317-4331, 2000

A;Title: Complete genome sequence of the alkaliphilic bacterium *Bacillus halodurans* and

A;Reference number: A83650; MUID:20512582; PMID:11058132

A;Accession: F83801

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-147 <STO>

A;Cross-references: UNIPROT:Q9KDJ9; UNIPARC:UPI00000C3B1B; GB:AP001511; GB:BA000004; NID

A;Experimental source: strain C-125

C;Genetics:

A;Gene: pheB

C;Superfamily: ACT domain ligand-binding protein PheB

Query Match 73.8%; Score 31; DB 2; Length 147;  
Best Local Similarity 66.7%; Pred. No. 21;  
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9

||| |||||

Db 117 TATWSLELD 125

RESULT 9

T20960

hypothetical protein W05H5.7 - *Caenorhabditis elegans*

C;Species: *Caenorhabditis elegans*

C;Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004

C;Accession: T20960; T26202

R;Sims, M.

submitted to the EMBL Data Library, October 1996

A;Reference number: Z19350

A;Accession: T20960

A;Status: preliminary; translated from GB/EMBL/DBJ

A;Molecule type: DNA

A;Residues: 1-339 <WIL>

A;Cross-references: UNIPROT:P90837; UNIPARC:UPI000007ABBA; EMBL:Z81062; PIDN:CAB02950.1;

A;Experimental source: clone F15A4

R;Percy, C.

submitted to the EMBL Data Library, October 1996

A;Reference number: Z20170

A;Accession: T26202

A;Status: preliminary; translated from GB/EMBL/DBJ

A;Molecule type: DNA

A;Residues: 1-339 <W12>

A;Cross-references: UNIPARC:UPI000007ABBA; EMBL:Z81139; PIDN:CAB03483.1; GSPDB:GN00020;

A;Experimental source: clone W05H5

C;Genetics:

A;Gene: CESP:W05H5.7

A;Map position: 2

A;Introns: 60/2; 158/2; 210/3; 251/3; 271/2

Query Match 73.8%; Score 31; DB 2; Length 339;

Best Local Similarity 75.0%; Pred. No. 56;

Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLEL 8

|||||:

Db 310 TSTTSVEI 317

RESULT 10

AJMSRS

argininosuccinate synthase (EC 6.3.4.5) - mouse

N;Alternate names: citrulline-aspartate ligase

C;Species: Mus musculus (house mouse)

C;Date: 30-Jun-1992 #sequence\_revision 30-Jun-1992 #text\_change 09-Jul-2004

C;Accession: J00463

R;Surh, L.C.; Beaudet, A.L.; O'Brien, W.E.

Gene 99, 181-189, 1991

A;Title: Molecular characterization of the murine argininosuccinate synthetase locus.

A;Reference number: J00463; MUID:91216457; PMID:1708740

A;Molecule type: mRNA

A;Residues: 1-412 <SUR>

A;Cross-references: UNIPROT:P16460; UNIPARC:UPI0000001838; GB:M31690; NID:g192068; PIDN:

C;Comment: This enzyme catalyzes the formation of argininosuccinate from citrulline and

C;Genetics:

A;Gene: ASS

A;Introns: 35/3; 58/3; 121/3; 142/3; 495/3; 189/2; 199/3; 230/1; 258/2; 280/1; 324/1; 37

C;Superfamily: argininosuccinate synthase

C;Keywords: arginine biosynthesis; homotetramer; ligase; urea cycle

F;149,153/Binding site: Mg-ATP (Glu, Arg) #status predicted

Query Match

Best Local Similarity 73.8%; Score 31; DB 1; Length 412;

Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TSTTSLEL 8

|||||

Db 243 TRTTSLEL 250

RESULT 11

S30168

mercury(II) reductase (EC 1.16.1.1) merA - Streptomyces lividans

N;Alternate names: mercuric reductase merA

C;Species: Streptomyces lividans

C;Date: 30-Sep-1993 #sequence\_revision 30-Sep-1993 #text\_change 09-Jul-2004

C;Accession: S30168; S23608; S70626

R;Sedlmeier, R.; Altenbuchner, J.

Mol. Gen. Genet. 236, 76-85, 1992

A;Title: Cloning and DNA sequence analysis of the mercury resistance genes of Streptomyces

A;Reference number: S30168; MUID:93156687; PMID:1494333

A;Accession: S30168

A;Molecule type: DNA

A;Residues: 1-474 <ALT>

A;Cross-references: UNIPROT:P30341; UNIPARC:UPI000012BF1F; EMBL:X65467; NID:g47180; PIDN:

A;Experimental source: strain 1326

R;Altenbuchner, J.

submitted to the EMBL Data Library, April 1992

A;Reference number: S23608

A;Accession: S23608

A;Molecule type: DNA

A;Residues: 1-273, 'A', 275-474 <AL2>

A;Cross-references: UNIPARC:UPI0000175063; EMBL:X65467

A;Experimental source: strain 1326

R;Bruenker, P.; Rother, D.; Sedlmeier, R.; Klein, J.; Mattes, R.; Altenbuchner, J.

Mol. Gen. Genet. 251, 307-315, 1996

A;Title: Regulation of the operon responsible for broad-spectrum mercury resistance in S

A;Reference number: S70625; MUID:96262183; PMID:8676873

A;Accession: S70626

A;Status: not compared with conceptual translation

A;Molecule type: DNA

A;Residues: 1-22 <BRU>

A;Cross-references: UNIPARC:UPI0000175064

A;Experimental source: strain 1326

C;Genetics:

A;Gene: merA

A;Start codon: GTG

C;Function:

A;Description: reduces mercury ions to less toxic metallic mercury

A;Pathway: mercury resistance

A;Note: NADPH-dependent enzyme; mercury resistance operon

C;Superfamily: dihydrolipoamide dehydrogenase; dihydrolipoamide dehydrogenase homology

C;Keywords: NADP; oxidoreductase; redox-active disulfide

F;11-455/Domain: dihydrolipoamide dehydrogenase homology <DLD>

F;45-50/Disulfide bonds: redox-active #status predicted

Query Match 73.8%; Score 31; DB 2; Length 474;

Best Local Similarity 75.0%; Pred. No. 83;

Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLEL 8

|||||:

Db 167 TSTTAMEL 174

RESULT 12

C69158

sensory transduction regulatory protein - Methanobacterium thermoautotrophicum (strain Delta

C;Species: Methanobacterium thermoautotrophicum

C;Date: 05-Dec-1997 #sequence\_revision 05-Dec-1997 #text\_change 09-Jul-2004

C;Accession: C69158

R;Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.; I

; Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiواني, N.;

ki, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.

J. Bacteriol. 179, 7135-7155, 1997

A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: functio

A;Reference number: A69000; MUID:98037514; PMID:9371463

A;Accession: C69158

A;Status: preliminary; nucleic acid sequence not shown; translation not shown

A;Molecule type: DNA

A;Residues: 1-583 <MTH>

A;Cross-references: UNIPROT:O26546; UNIPARC:UPI000006668C; GB:AE000829; NID

A;Experimental source: strain Delta H

C;Genetics:

A;Gene: MTH446

Query Match

Best Local Similarity 73.8%; Score 31; DB 2; Length 583;

Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9

|||||:

Db 220 TSVTAVELD 228

RESULT 13

A85055

probable leucyl tRNA synthetase [imported] - Arabidopsis thaliana

C;Species: Arabidopsis thaliana (mouse-ear cress)

C;Date: 16-Feb-2001 #sequence\_revision 16-Feb-2001 #text\_change 09-Jul-2004

C;Accession: A85055

R;anonymous, The European Union Arabidopsis Genome Sequencing Consortium, The Cold Spring

Nature 402, 769-777, 1999

A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.

A;Reference number: A85001; MUID:20083488; PMID:10617198

A;Accession: A85055

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-973 <STO>

A;Cross-references: UNIPROT:Q9XEA0; UNIPARC:UPI000000AC02A; GB:NC\_001269; NID:g7267192; P

C;Genetics:

A:Gene: AT4g04350  
A:Map position: 4  
C:Superfamily: leucine-trna ligase

Query Match 73.8%; Score 31; DB 2; Length 973;  
Best Local Similarity 75.0%; Pred. No. 1.9e+02;  
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLEL 8  
|:|||||  
Db 74 TATISIEL 81

RESULT 14  
BWBVDL  
RAD50 protein - yeast (Saccharomycetes cerevisiae)  
N:Alternate names: protein N0872; protein YNL250w  
C:Species: Saccharomycetes cerevisiae  
C:Date: 31-Dec-1991 #sequence\_revision 31-Dec-1991 #text\_change 09-Jul-2004  
C:Accession: S05808; S63223  
R:Alani, E.; Subbiah, S.; Kleckner, N.  
Genetics 122, 47-57, 1989  
A:Title: The yeast RAD50 gene encodes a predicted 153-kD protein containing a purine nuc  
A:Reference number: S05808; MUID:89276917; PMID:2659437  
A:Accession: S05808  
A:Molecule type: DNA  
A:Residues: 1-1312 <ALA>  
A:Cross-references: UNIPROT:P12753; UNIPARC:UPI000004C4DD; EMBL:X14814; NID:g4272; PIDN:  
R:Sen-Gupta, M.; Gueldeher, U.; Beinbauer, J.; Fiedler, T.; Hegemann, J.H.  
submitted to the Protein Sequence Database, April 1996  
A:Reference number: S63220  
A:Accession: S63223  
A:Molecule type: DNA  
A:Residues: 1-1312 <SEN>  
A:Cross-references: UNIPARC:UPI000004C4DD; EMBL:Z71526; NID:gl302292; PIDN:CAA96157.1; E  
A:Experimental source: strain S288C  
C:Genetics:  
A:Gene: SGD:RAD50; MIPS:YNL250w  
A:Cross-references: SGD:S0005194; MIPS:YNL250w  
A:Map position: 14L  
C:Superfamily: RAD50 protein  
C:Keywords: ATP; coiled coil; DNA repair; meiosis; nucleus  
F:177-421/Region: heptad repeats  
F:743-995/Region: heptad repeats  
F:40/Binding site: ATP (Lys) #status predicted

Query Match 73.8%; Score 31; DB 1; Length 1312;  
Best Local Similarity 87.5%; Pred. No. 2.7e+02;  
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 STTSLELD 9  
|||  
Db 129 STRSLELD 136

RESULT 15  
T30213  
G-cadherin - sea urchin (Lytechinus variegatus)  
C:Species: Lytechinus variegatus (variegated urchin)  
C:Date: 22-Oct-1999 #sequence\_revision 22-Oct-1999 #text\_change 09-Jul-2004  
C:Accession: T30213  
R:Miller, J.R.; McClay, D.R.  
Dev. Biol. 192, 323-339, 1997  
A:Title: Characterization of the role of cadherin in regulating cell adhesion during sea  
A:Reference number: Z20780; MUID:98104238; PMID:9441671  
A:Accession: T30213  
A:Status: preliminary; translated from GB/EMBL/DBSJ  
A:Molecule type: mRNA  
A:Residues: 1-2809 <MIL>  
A:Cross-references: UNIPROT:O61230; UNIPARC:UPI0000081A90; EMBL:U34823; NID:g2982186; PI

Query Match 73.8%; Score 31; DB 2; Length 2809;  
Best Local Similarity 75.0%; Pred. No. 6.6e+02;

Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 STTSLELD 9  
|||  
Db 1780 STTGLELD 1787

Search completed: December 2, 2005, 23:29:25  
Job time : 7.94382 secs

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GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 22:38:37 ; Search time 25.0281 Seconds  
(without alignments)  
253.705 Million cell updates/sec

Title: US-10-691-125-5  
Perfect score: 42  
Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : UniProt\_05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	175	2	Q53XY9 HUMAN
2	42	100.0	177	1	P12772 HOMO SAPIEN
3	42	100.0	177	2	Q6FH74 HUMAN
4	37	88.1	476	2	Q4NF11_9M1CC
5	36	85.7	457	2	Q8A712 BACTIN
6	36	85.7	741	2	Q8W170 ORYZA
7	36	85.7	772	2	Q751Q9 ORYZA
8	36	85.7	3141	2	Q5AR80 EMENI
9	35	83.3	538	2	Q76P04_DICDI
10	35	83.3	1068	2	Q54ZS5_DICDI
11	34	81.0	399	2	Q9FR65_9BRAS
12	34	81.0	424	2	Q4U978 THEAN
13	34	81.0	475	2	Q7T3Q3 BRARE
14	34	81.0	773	2	Q5XHK0 XENLA
15	34	81.0	1010	2	Q88XH5_LACPL
16	34	81.0	1682	2	Q4ZUT9_PSESY
17	33	78.6	100	2	Q9DA51 MOUSE
18	33	78.6	120	2	Q84VR0 MAIZE
19	33	78.6	143	2	Q84K87 MAIZE
20	33	78.6	239	2	Q6Z417_ORYZA
21	33	78.6	303	2	Q8U248_9ASCO
22	33	78.6	306	2	Q6ENK1 ORYZA
23	33	78.6	510	2	Q41KF3_9BURK
24	33	78.6	511	2	Q63JM5_BURPS
25	33	78.6	511	2	Q62AK1_BURMA
26	33	78.6	542	2	Q8MZE6_DROME
27	33	78.6	563	2	Q5E3J3_VIBF1
28	33	78.6	749	2	Q9W4E0_DROME
29	33	78.6	966	2	Q84PR7_ORYZA
30	33	78.6	1290	2	Q55173_CRYNE
31	33	78.6	1290	2	Q5K7Q8_CRYNE

32 33 78.6 1885 2 Q8RJY4\_STIAU Q8RJY4 stigmatella  
33 33 78.6 2506 2 Q58MP1\_9CAUD Q58MP1 cyanophage  
34 33 78.6 4237 2 Q4SBT0\_TETNG Q4SBT0 tetracodon n  
35 33 78.6 6846 2 Q4ROA7\_TETNG Q4ROA7 tetracodon n  
36 32 76.2 17 2 Q9AU0\_9BRAS Q9AU0 cochlearia  
37 32 76.2 93 2 Q8GZ24\_ARATH Q8GZ24 arabidopsis  
38 32 76.2 168 2 Q8S0S8\_ORYZA Q8S0S8 oryza sativ  
39 32 76.2 170 2 Q7YR12\_CEREL Q7YR12 cervus elap  
40 32 76.2 237 1 YBW4\_SCHPO Q94662 schizosacch  
41 32 76.2 248 2 O81405 SINAR O81405 sinapis arv  
42 32 76.2 330 2 O16975\_CAEEL O16975 caenorhabdi  
43 32 76.2 372 2 O6G9W6\_STAAS O6G9W6 staphylococ  
44 32 76.2 372 2 Q6GH18\_STAAS Q6GH18 staphylococ  
45 32 76.2 372 2 Q7A123\_STAAS Q7A123 staphylococ

#### ALIGNMENTS

##### RESULT 1

Q53XY9 HUMAN  
ID Q53XY9 HUMAN PRELIMINARY; PRT; 175 AA.  
AC Q53XY9  
DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
DE Parathyroid hormone-like hormone.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RA Kainine N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,  
RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,  
RA Phelan M., Farmer A.;  
RT "Cloning of human full-length CDSs in BD Creator(TM) System Donor  
vector."  
RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.  
SR EMBL; BT007178; AAP35842.1; -; mRNA.  
SQ SEQUENCE 175 AA; 19900 MW; 4FEE954C51DB3E7D CRC64;

Query Match 100.0%; Score 42; DB 2; Length 175;  
Best Local Similarity 100.0%; Pred. No. 0.72;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | | | | | | |  
Db 165 TSTTSLELD 173

##### RESULT 2

PTHR HUMAN  
ID PTHR HUMAN STANDARD; PRT; 177 AA.  
AC P12272; O15251;  
DT 01-OCT-1989 (Rel. 12, Created)  
DT 01-OCT-1989 (Rel. 12, Last sequence update)  
DT 10-MAY-2005 (Rel. 47, Last annotation update)  
DE Parathyroid hormone-related protein precursor (PTH-rp) (PTH-rp)  
DE [Contains: PTHrP[1-36]; PTHrP[38-94]; Osteostatin (PTHrP[107-139])].  
GN Name=PTHrP; Synonym=PTHRP;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE, AND PARTIAL PROTEIN SEQUENCE.  
RX MEDLINE=87292119; PubMed=3616618;  
RA Suva L.J., Winslow G.A., Wettenhall R.E.H., Hammonds R.G.,  
RA Moseley J.M., Diefenbach-Jagger H., Rodda C.P., Kemp B.E.,  
RA Rodriguez H., Chen B.Y., Hudson P.J., Martin T.J., Wood W.I.;

- RT "A parathyroid hormone-related protein implicated in malignant hypercalcemia: cloning and expression.";  
RT Science 237:893-896(1997).  
RN [2]  
RN NUCLEOTIDE SEQUENCE.  
RX MEDLINE=88124889; PubMed=2829195;  
RA Mangin M., Webb A.C., Dreyer B.E., Posillico J.T., Ikeda K., Weir E.C., Stewart A.F., Bander N.H., Milstone L., Barton D.E., Francke U., Broadus A.E.;  
RT "Identification of a cDNA encoding a parathyroid hormone-like peptide from a human tumor associated with humoral hypercalcemia of malignancy.";  
RT Proc. Natl. Acad. Sci. U.S.A. 85:597-601(1988).  
RN [3]  
RN NUCLEOTIDE SEQUENCE.  
RX MEDLINE=82124227; PubMed=2708388;  
RA Yasuda T., Banville D., Hendy G.N., Goltzman D.;  
RT "Characterization of the human parathyroid hormone-like peptide gene. Functional and evolutionary aspects.";  
RT J. Biol. Chem. 264:7720-7725(1989).  
RN [4]  
RN NUCLEOTIDE SEQUENCE (ISOFORM 2).  
RX MEDLINE=88262996; PubMed=3290897;  
RA Thiede M.A., Strewler G.J., Nissenson R.A., Rodan G.A.;  
RT "Human renal carcinoma expresses two messages encoding a parathyroid hormone-like peptide: evidence for the alternative splicing of a single-copy gene.";  
RT Proc. Natl. Acad. Sci. U.S.A. 85:4605-4609(1988).  
RN [5]  
RN NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 2).  
RT TISSUE=Brain;  
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Raha S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J., Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fehey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A., Whitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickinson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalls D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";  
RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RN [6]  
RN NUCLEOTIDE SEQUENCE OF 1-33.  
RT TISSUE=Liver;  
RX MEDLINE=89306685; PubMed=2744490; DOI=10.1016/0378-1119(89)90363-6;  
RA Suva L.J., Mather K.A., Gillespie M.T., Webb G.C., Ng K.W., Winslow G.A., Wood W.I., Martin T.J., Hudson P.J.;  
RT "Structure of the 5' flanking region of the gene encoding human parathyroid-hormone-related protein (PTHrP).";  
RT Gene 77:95-105(1989).  
RN [7]  
RN PROTEIN SEQUENCE OF 37-52.  
RX MEDLINE=87260926; PubMed=2885845;  
RA Moseley J.M., Kubota M., Diefenbach-Jagger H., Wettenhall R.E.H., Kemp B.E., Suva L.J., Rodda C.P., Ebeling P.R., Hudson P.J., Zajac J.D., Martin T.J.;  
RT "Parathyroid hormone-related protein purified from a human lung cancer cell line.";  
RT Proc. Natl. Acad. Sci. U.S.A. 84:5048-5052(1987).  
RN [8]  
RN ALTERNATIVE SPLICING (ISOFORM 3).  
RX MEDLINE=89184636; PubMed=2928340;  
RA Mangin M., Ikeda K., Dreyer B.E., Broadus A.E.;  
RT "Isolation and characterization of the human parathyroid hormone-like peptide gene.";  
RT Proc. Natl. Acad. Sci. U.S.A. 86:2408-2412(1989).  
RN [9]  
RN CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92007462; PubMed=1915066;  
RA Fenton A.J., Kemp B.E., Kent G.N., Moseley J.M., Zheng M.H., Rowe D.J., Britto J.M., Martin T.J., Nicholson G.C.;  
RT "A carboxyl-terminal peptide from the parathyroid hormone-related protein inhibits bone resorption by osteoclasts.";  
RT Endocrinology 129:1762-1768(1991).  
RN [10]  
RN CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92063907; PubMed=1954916;  
RA Fenton A.J., Kemp B.E., Hammonds R.G., Mitchellhill K., Moseley J.M., Martin T.J., Nicholson G.C.;  
RT "A potent inhibitor of osteoclastic bone resorption within a highly conserved pentapeptide region of parathyroid hormone-related protein: PTHrP107-111.";  
RT Endocrinology 129:3424-3426(1991).  
RN [11]  
RN CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=92789439; PubMed=9144344;  
RA Martinez M.E., Garcia-Ocana A., Sanchez M., Medina S., del Campo T., Valin A., Sanchez-Cabezudo M.J., Ebrill P.;  
RT "C-terminal parathyroid hormone-related protein inhibits proliferation and differentiation of human osteoblast-like cells.";  
RT J. Bone Miner. Res. 12:778-785(1997).  
RN [12]  
RN CHARACTERIZATION OF OSTEOSTATIN ACTIVITY.  
RX MEDLINE=97200810; PubMed=9048639; DOI=10.1210/en.138.3.1299;  
RA Cornish J., Callon K.E., Nicholson G.C., Reid I.R.;  
RT "Parathyroid hormone-related protein-(107-139) inhibits bone resorption in vivo.";  
RT Endocrinology 138:1299-1304(1997).  
RN [13]  
RN NUCLEOCYTOPLASMIC SHUTTTLING  
RX MEDLINE=22736810; PubMed=12852660; DOI=10.1016/S0083-6729(03)01010-0;  
RA Jans D.A., Thomas R.J., Gillespie M.T.;  
RT "Parathyroid hormone-related protein (PTHrP): a nucleocytoplasmic shuttling protein with distinct paracrine and intracrine roles.";  
RT Vitam. Horm. 66:345-384(2003).  
RN [14]  
RN NUCLEAR LOCALIZATION SIGNAL.  
RX MEDLINE=21294781; PubMed=11401507; DOI=10.1006/bbrc.2001.4607;  
RA Lam M.H., Hu W., Xiao C.Y., Gillespie M.T., Jans D.A.;  
RT "Molecular dissection of the importin beta1-recognized nuclear targeting signal of parathyroid hormone-related protein.";  
RT Biochem. Biophys. Res. Commun. 282:629-634(2001).  
RN [15]  
RN REVIEW.  
RX MEDLINE=22425984; PubMed=12538599; DOI=10.1210/en.2002-220818;  
RA Fiaschi-Taesch N.M., Stewart A.P.;  
RT "Minireview: parathyroid hormone-related protein as an intracrine factor -- trafficking mechanisms and functional consequences.";  
RT Endocrinology 144:407-411(2003).  
RN [16]  
RN STRUCTURE BY NMR OF 37-70.  
RX MEDLINE=99158054; PubMed=10050767; DOI=10.1016/S0014-5793(98)01658-5;  
RA Weidner M., Marx U.C., Seidel G., Schafer W., Hoffmann E., Esswein A., Roach P.;  
RT "The structure of human parathyroid hormone-related protein(1-34) in near-physiological solution.";  
RT FEBS Lett. 444:239-244(1999).  
RN [17]  
RN X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS) OF 103-130.  
RX MEDLINE=22394015; PubMed=12504010; DOI=10.1016/S1097-2765(02)00727-X;  
RA Cingolani G., Bednarek J., Gillespie M.T., Gerace L.;  
RT "Molecular basis for the recognition of a nonclassical nuclear localization signal by importin beta.";  
RT Mol. Cell 10:1345-1353(2002).  
RN [18]  
RN FUNCTION: Neuroendocrine peptide which is a critical regulator of

cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth.

-!- FUNCTION: Osteostatin is a potent inhibitor of osteoclastic bone resorption.

-!- SUBCELLULAR LOCATION: Cytoplasmic, nuclear and secreted.

-!- ALTERNATIVE PRODUCTS:

Event-Alternative splicing; Named isoforms=3;

Comment-Additional isoforms seem to exist;

Name=1; IsoId=P12272-1; Sequence=Displayed;

Name=2; IsoId=P12272-2; Sequence=VSP\_004534;

Name=3; IsoId=P12272-3; Sequence=VSP\_004535;

-!- TISSUE SPECIFICITY: Ubiquitous. Also expressed in the mammary gland.

-!- PTM: There are 3 principal secretory forms, called PTHrP[1-36], PTHrP[38-94], and osteostatin (PTHrP[107-139]) arising from endoproteolytic cleavage of the initial translation product. Each of these secretory forms is believed to have one or more of its own receptors that mediates the normal paracrine, autocrine and endocrine actions.

-!- DISEASE: Produced by many tumors from patients with HHM (humoral hypercalcemia of malignancy).

-!- SIMILARITY: Belongs to the parathyroid hormone family.

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EMBL; M17183; AAA60221.1; -; Genomic\_DNA.

Query Match 100.0%; Score 42; DB 1; Length 177;  
 Best Local Similarity 100.0%; Pred. No. 0.73;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 165 TSTTSLELD 173

RESULT 3  
 Q6FH74 HUMAN PRELIMINARY; PRT; 177 AA.  
 AC Q6FH74;  
 DT 10-MAY-2005 (TrEMBLrel. 30, Created)  
 DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)  
 DE PTHLH protein (Fragment).  
 GN Name=PTHLH;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae; Homo.  
 OC NCBI\_TaxID=9606;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Halleck A., Ebert L., Moundinya M., Schick M., Eisenstein S., Neubert P., Ketrang K., Schatten R., Shen B., Henze S., Mar W., Korn B., Zuo D., Hu Y., Labaer J.;  
 RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; CE541882; CAG46680.1; -; mRNA.  
 FT NON\_TER 177 177  
 SQ SEQUENCE 177 AA; 20194 MW; 449FDFEE954C51DB CRC64;

Query Match 100.0%; Score 42; DB 2; Length 177;  
 Best Local Similarity 100.0%; Pred. No. 0.73;  
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 165 TSTTSLELD 173

RESULT 4  
 Q4NF11\_9MICC PRELIMINARY; PRT; 476 AA.  
 AC Q4NF11;  
 DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
 DE FAD-dependent pyridine nucleotide-disulphide oxidoreductase:Pyridine nucleotide-disulphide oxidoreductase dimerisation region.  
 DE ORFNames=ArthDRAFT 2098;  
 GN Arthrobacter sp. PB24.  
 OS Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;  
 OC Micrococcales; Micrococcaceae; Arthrobacter.  
 OC NCBI\_TaxID=290399;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=PB24;  
 RG US DOE Joint Genome Institute (JGI-PGF);  
 RA Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;  
 RT "Sequencing of the draft genome assembly of Arthrobacter sp. PB24."  
 RL Submitted (JUN-2005) to the EMBL/GenBank/DBJ databases.  
 RN [2]

RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=PB24;  
 RG US DOE Joint Genome Institute (JGI-PGF);  
 RA Larimer F., Land M.;  
 RT "Annotation of the draft genome assembly of Arthrobacter sp. PB24."  
 RL Submitted (JUN-2005) to the EMBL/GenBank/DBJ databases.  
 CC -!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is preliminary data.  
 CC EMBL; AARG01000007; EAL95964.1; -; Genomic DNA.  
 DR EMBL; AARG01000007; EAL95964.1; -; Genomic DNA.  
 SQ SEQUENCE 476 AA; 49359 MW; 8C2531216B367AE CRC64;

Query Match 88.1%; Score 37; DB 2; Length 476;  
 Best Local Similarity 77.8%; Pred. No. 30;  
 Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 168 TSTTSLELD 176

RESULT 5  
 Q8A712\_BACTN PRELIMINARY; PRT; 457 AA.  
 ID Q8A712\_BACTN PRELIMINARY;  
 AC Q8A712;  
 DT 01-JUN-2003 (TrEMBLrel. 24, Created)  
 DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Putative pyridine nucleotide-disulphide oxidoreductase.  
 GN OrderedLocusNames=B1542;  
 OS Bacteroides thetaiotaomicron.  
 OC Bacteria; Bacteroidetes; Bacteroidia; Bacteroidales;  
 OC Bacteroidaceae; Bacteroides.  
 OC NCBI\_TaxID=818;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=VPI-5482 / ATCC 29148;  
 RX MEDLINE=22550858; PubMed=12663928; DOI=10.1126/science.1080029;  
 RA Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K., Chiang H.C., Hooper L.V., Gordon J.I.;  
 RT "A genomic view of the human-Bacteroides thetaiotaomicron symbiosis."  
 RL Science 299:2074-2076(2003).  
 DR EMBL; AE016932; AAO76649.1; -; Genomic DNA.  
 DR HSSP; P31023; 1DXL.  
 DR GO; GO:0005737; Cytoplasm; IEA.

DR GO: GO:0015036; F:disulfide oxidoreductase activity; IEA.  
 DR GO: GO:0050660; F:FAD binding; IEA.  
 DR GO: GO:0006118; P:electron transport; IEA.  
 DR InterPro: IPR001327; FAD\_pyr\_redox.  
 DR InterPro: IPR000815; Hg\_reductase.  
 DR InterPro: IPR00205; NAD\_BS.  
 DR InterPro: IPR00103; Pyridine redox\_2.  
 DR InterPro: IPR001100; Pyr\_redox.  
 DR InterPro: IPR004099; Pyr\_redox\_dim.  
 DR Pfam: PF00070; Pyr\_redox; 1.  
 DR Pfam: PF02852; Pyr\_redox\_dim; 1.  
 DR PRINTS: PR00368; FADPNR.  
 DR PRINTS: PR00945; HGRDPTASE.  
 DR PRINTS: PR00411; PNDROTPASEII.  
 DR PRINTS: PR00469; PNDROTPASEII.  
 DR ProDom: PD000139; FAD\_pyr\_redox; 1.  
 KW Complete proteome.  
 SQ SEQUENCE 457 AA; 50423 MW; 13290F2E1D1A62B7 CRC64;

Query Match 85.7%; Score 36; DB 2; Length 457;  
 Best Local Similarity 88.9%; Pred. No. 48;  
 Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 159 TSTTLELD 167

RESULT 6  
 Q8W170 ORYSA  
 ID Q8W170 ORYSA PRELIMINARY; PRT; 741 AA.  
 AC Q8W170; 2002 (TrEMBLrel. 20, Created)  
 DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Fructose-6-phosphate-2-kinase/fructose-2, 6-bisphosphatase.  
 OS Oryza sativa (Rice).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;  
 OC Ehrhartoideae; Oryzeae; Oryza.  
 OX NCBI\_TaxID=4530;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Hu J.-G., Huang B.-Q., Yip W., Zee S.;  
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBSJ databases.  
 DR EMBL; AF456329; AAL66023.1; --; mRNA.  
 DR HSSP; P07953; 1FET.  
 DR Gramene; Q8W170; --.  
 DR GO: GO:0005524; F:ATP binding; IEA.  
 DR GO: GO:0003824; F:catalytic activity; IEA.  
 DR GO: GO:0016301; F:kinase activity; IEA.  
 DR GO: GO:0006003; P:fructose 2,6-bisphosphate metabolism; IEA.  
 DR GO: GO:0008152; P:metabolism; IEA.  
 DR InterPro: IPR003094; 6Pfruct\_kin.  
 DR Pfam; PF01591; 6PF2K; 1.  
 DR Pfam; PF00300; PGAM; 1.  
 DR PRINTS; PR00991; 6PFRUCTKNASE.  
 DR PROSITE; PS00175; PG\_MUTASE; UNKNOWN\_1.  
 KW Kinase.  
 SQ SEQUENCE 741 AA; 82448 MW; 1C6504B779F8761F CRC64;

Query Match 85.7%; Score 36; DB 2; Length 741;  
 Best Local Similarity 88.9%; Pred. No. 84;  
 Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 174 TSTTSLELD 182

RESULT 7  
 Q75I09 ORYSA

ID Q75I09 ORYSA PRELIMINARY; PRT; 772 AA.  
 AC Q75I09;  
 DT 05-JUL-2004 (TrEMBLrel. 27, Created)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)  
 DE 'putative 6-phosphofructo-2-kinase (EC 2.7.1.105) / fructose-2, 6-bisphosphate 2-phosphatase (EC 3.1.3.46); ('putative 6-phosphofructo-2-kinase/ fructose-2, 6-bisphosphate 2-phosphatase').  
 DE Name=OSJNB0099P06.14; Synonyms=OSJNB0027N19.4;  
 GN Oryza sativa (japonica cultivar-group).  
 OS Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;  
 OC Ehrhartoideae; Oryzeae; Oryza.  
 OX NCBI\_TaxID=39947;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M.,  
 RA Chao Y.-T., Lee P.-F., Chang S.-J., Chen H.-C., Chen S.-K.,  
 RA Chen T.-R., Chen Y.-L., Cheng C.-H., Chung C.-I., Han S.-Y.,  
 RA Hsiao S.-H., Hsiung J.-N., Hsu C.-H., Hsu C.-H., Lee M.-C.,  
 RA Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W.,  
 RA Wu H.-P., Shaw J.-F.;  
 RL Submitted (MAY-2004) to the EMBL/GenBank/DBSJ databases.  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M.,  
 RA Chao Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R.,  
 RA Chen Y.-L., Cheng C.-H., Chung C.-I., Han S.-Y., Hsiao S.-H.,  
 RA Hsiung J.-N., Hsu C.-H., Huang J.-J., Kau P.-I., Lee M.-C.,  
 RA Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W.,  
 RA Wu H.-P., Shaw J.-F.;  
 RL Submitted (JUL-2004) to the EMBL/GenBank/DBSJ databases.  
 DR EMBL; AC124144; AAT07663.1; --; Genomic DNA.  
 DR EMBL; AC134341; AAT69621.1; --; Genomic DNA.  
 DR HSSP; P16118; 1K6M.  
 DR Gramene; Q75I09; --.  
 DR GO: GO:0003873; F:6-phosphofructo-2-kinase activity; IEA.  
 DR GO: GO:0005524; F:ATP binding; IEA.  
 DR GO: GO:0003824; F:catalytic activity; IEA.  
 DR GO: GO:0004331; P:fructose-2,6-bisphosphate 2-phosphatase act. .; IEA.  
 DR GO: GO:0016301; P:kinase activity; IEA.  
 DR GO: GO:0006003; P:fructose 2,6-bisphosphate metabolism; IEA.  
 DR GO: GO:0008152; P:metabolism; IEA.  
 DR InterPro: IPR003094; 6Pfruct\_kin.  
 DR InterPro: IPR001345; PG/BPGM\_mutase.  
 DR Pfam; PF01591; 6PF2K; 1.  
 DR Pfam; PF00300; PGAM; 1.  
 DR PRINTS; PR00991; 6PFRUCTKNASE.  
 DR PROSITE; PS00175; PG\_MUTASE; UNKNOWN\_1.  
 KW Kinase.  
 SQ SEQUENCE 772 AA; 84819 MW; 725E6370E649C430 CRC64;  
 Query Match 85.7%; Score 36; DB 2; Length 772;  
 Best Local Similarity 88.9%; Pred. No. 88;  
 Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
 |||||  
 Db 205 TSTTSLELD 213

RESULT 8  
 Q5AR80 EMENI  
 ID Q5AR80 EMENI PRELIMINARY; PRT; 3141 AA.  
 AC Q5AR80;  
 DT 10-MAY-2005 (TrEMBLrel. 30, Created)  
 DT 10-MAY-2005 (TrEMBLrel. 30, Last sequence update)  
 DT 10-MAY-2005 (TrEMBLrel. 30, Last annotation update)  
 DE Hypothetical protein.  
 DE ORFNames=AN9200.2;  
 GN Aspergillus nidulans FGSC A4.  
 OS Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;  
 OC Eurotiales; Trichocomaceae; Emericella.

OX NCBI\_TaxID=227321;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=FGSC A4;  
 RA Birren B., Nusbaum C., Abouelleil A., Allen N., Anderson S.,  
 RA Arachchi H.M., Barna N., Bastien V., Bloom T., Boguslavskiy L.,  
 RA Boukhalter B., Butler J., Calvo S.E., Camarata J., Chang J.,  
 RA Choepel Y., Collymore A., Cook A., Cooke P., Corum B., DeArrellano K.,  
 RA Diaz J.S., Dodge S., Dooley K., Dorris L., Elkins T., Engels R.,  
 RA Erickson J., Faro S., Ferreira P., Fitzgerald M., Gage D., Galagan J.,  
 RA Gardyna S., Gnerre S., Graham L., Grand-Pierre N., Hafez N.,  
 RA Hegopian D., Hagos B., Hall J., Horton L., Hulme W., Iliev I.,  
 RA Jaffe D., Johnson R., Jones C., Kamat M., Kamat A., Karatas A.,  
 RA Kells C., Landers T., Levine R., Lindblad-Toh K., Liu G., Lui A.,  
 RA Ma L.-J., Mabbitt R., MacLean C., Macdonald P., Major J., Manning J.,  
 RA Matthews C., Mauceli E., McCarthy M., Meldrim J., Meneus L.,  
 RA Mihova T., Miengva V., Murphy T., Naylor J., Nguyen C., Nicol R.,  
 RA Nielsen C.B., Norbu C., O'Connor T., O'Donnell P., O'Neil D.,  
 RA Oliver J., Peterson K., Phunkhang P., Pierre N., Purcell S.,  
 RA Rachupka A., Ramasamy U., Raymond C., Retta R., Rise C., Rogov P.,  
 RA Roman J., Schauer S., Schupback R., Seaman S., Severy P., Smirnov S.,  
 RA Smith C., Spencer B., Stange-Thomann N., Stojanovic N., Stubbs M.,  
 RA Talamas J., Tesfaye S., Theodore J., Topham K., Travers M.,  
 RA Vassiliev H., Venkataraman V.S., Viel R., Vo A., Wang S., Wilson B.,  
 RA Wu X., Wyman D., Young G., Zainoun J., Zembek L., Zimmer A., Zody M.,  
 RA Lander E.;  
 RT "Genome Sequence of Aspergillus nidulans";  
 RL Submitted (JAN-2004) to the EMBL/GenBank/DBJ databases.  
 CC -1- CAUTION: The sequence shown here is derived from an  
 CC preliminary data.  
 CC EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is  
 CC Hypothetical protein.  
 KW EMBL; AACD01000170; EAA61491.1; -; Genomic\_DNA.  
 SQ SEQUENCE 3141 AA; 358018 MW; F4PB5E503921110A CRC64;  
 Query Match 85.7%; Score 36; DB 2; Length 3141;  
 Best Local Similarity 77.8%; Pred. No. 4.6e+02;  
 Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 TSTTSLELD 9  
 Db 1280 TSTSSLEID 1288  
 RESULT 9  
 ID Q76P04\_DICDI PRELIMINARY; PRT; 538 AA.  
 AC Q76P04;  
 DT 05-JUL-2004 (TrEMBLrel. 27, Created)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Hypothetical protein.  
 OS Dictyostelium discoideum (slime mold).  
 CC Eukaryota; Mycetozoa; Dictyosteliida; Dictyostelium.  
 OX NCBI\_TaxID=44689;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=AX4;  
 RX MEDLINE=22092622; PubMed=12097910; DOI=10.1038/nature00847;  
 RA Gloeckner G., Eichinger L., Szafranski K., Pachebat J.A.,  
 RA Bankier A.T., Dear P.H., Lehmann R., Baumgart C., Parra G.,  
 RA Abril J.F., Guigo R., Kumpf K., Tunggal B., Cox E., Quail M.A.,  
 RA Platzer M., Rosenthal A., Noegel A.A.,  
 RT "Sequence and analysis of chromosome 2 of Dictyostelium discoideum.";  
 RL Nature 418:79-85(2002).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=AX4;  
 RA Baumgart C.;  
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AC116977; AA051277.1; -; Genomic\_DNA.  
 DR GO; GO:0005634; C:nucleus; IEA.  
 DR GO; GO:0046872; F:metal ion binding; IEA.

DR GO; GO:0003676; F:nucleic acid binding; IEA.  
 DR GO; GO:0008270; F:zinc ion binding; IEA.  
 DR InterPro; IPR007087; Znf\_C2H2.  
 DR PROSITE; PS00028; ZINC\_FINGER\_C2H2\_1; 1.  
 DR PROSITE; PS00157; ZINC\_FINGER\_C2H2\_2; 1.  
 KW DNA-binding; Hypothetical protein; Metal-binding; Nuclear protein;  
 KW Zinc; Zinc-finger.  
 SQ SEQUENCE 538 AA; 58626 MW; 66349B5C33CA69AB CRC64;  
 Query Match 83.3%; Score 35; DB 2; Length 538;  
 Best Local Similarity 66.7%; Pred. No. 96;  
 Matches 6; Conservative 3; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 TSTTSLELD 9  
 Db 200 TTTTSMEID 208  
 RESULT 10  
 Q54ZS5\_DICDI PRELIMINARY; PRT; 1068 AA.  
 ID Q54ZS5;  
 AC Q54ZS5;  
 DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)  
 DE Hypothetical protein.  
 GN ORFNames=DD80217966;  
 OS Dictyostelium discoideum (slime mold).  
 CC Eukaryota; Mycetozoa; Dictyosteliida; Dictyostelium.  
 OX NCBI\_TaxID=44689;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=AX4;  
 RA Eichinger L., Pachebat J.A., Gloeckner G., Rajandream M.-A.,  
 RA Sugang R., Berriman M., Song J., Olsen R., Szafranski K., Xu Q.,  
 RA Tunggal B., Kummerfeld S., Madera M., Konfortov B.A., Rivero F.,  
 RA Bankier A.T., Lehmann R., Hamlin N., Davies R., Gaudet P., Fey P.,  
 RA Pilcher K., Chen G., Saunders D., Sodergren E., Davis P.,  
 RA Kerhornou A., Nie X., Hall N., Anjard C., Hemphill L., Bason N.,  
 RA Farbrother P., Desany B., Just E., Morio T., Rost R., Churcher C.,  
 RA Cooper J., Haydock S., van Driessche N., Cronin A., Goodhead I.,  
 RA Muzny D., Mourier T., Pain A., Lu M., Harper D., Lindsey R.,  
 RA Hauser H., James K., Quiles M., Mohan M.B., Saito T., Buchrieser C.,  
 RA Wardrop A., Felder M., Thangavelu M., Johnson D., Knights A.,  
 RA Loulseghe H., Mungall K., Oliver K., Price C., Quail M.A.,  
 RA Urushihara H., Hernandez J., Rabinowitch E., Steffen D., Sanders M.,  
 RA Ma J., Kohara Y., Sharp S., Simmonds M., Spiegler S., Tivey A.,  
 RA Sugano S., White B., Walker D., Woodward J., Winckler T., Tanaka Y.,  
 RA Shaulsky G., Schleicher M., Weinstein G., Rosenthal A., Cox E.C.,  
 RA Chisholm R.L., Gibbs R., Loomis W.F., Platzer M., Kay R.R.,  
 RA Williams J., Dear P.H., Noegel A.A., Barrell B., Kuspa A.;  
 RT "The genome of the social amoeba Dictyostelium discoideum.";  
 RL Nature 0:0-0(2005).  
 CC -1- CAUTION: The sequence shown here is derived from an  
 CC preliminary data.  
 CC EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is  
 CC preliminary data.  
 KW Hypothetical protein.  
 SQ SEQUENCE 1068 AA; 119840 MW; B00FA80BF43714D5 CRC64;  
 Query Match 83.3%; Score 35; DB 2; Length 1068;  
 Best Local Similarity 66.7%; Pred. No. 2.1e+02;  
 Matches 6; Conservative 3; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 TSTTSLELD 9  
 Db 730 TTTTSMEID 738  
 RESULT 11  
 Q9FR65\_9BRAS PRELIMINARY; PRT; 399 AA.  
 ID Q9FR65\_9BRAS  
 AC Q9FR65;  
 DR GO; GO:0005634; C:nucleus; IEA.

01-MAR-2001 (TrEMBLrel. 16, Created)  
 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 Chalcone synthase.  
 Name=Chs;  
 GN Ionopsidium abulense.  
 OS Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;  
 OC rosids; eurosids 1; Brassicales; Brassicaceae; Ionopsidium.  
 OX NCBI\_TaxID=126275;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX PubMed=11250830;  
 RA Koch M., Haubold B., Mitchell-Olds T.;  
 RT "Molecular systematics of the Brassicaceae: evidence from coding  
 RT plastidic matk and nuclear Chs sequences.";  
 RL Am. J. Bot. 88:534-544 (2001).  
 CC -1- SIMILARITY: Belongs to the chalcone/stilbene synthases family.  
 DR EMBL: AF144542; AAG43360.1; -; Genomic\_DNA.  
 DR HSP: P30074; ICGZ.  
 DR SWR; Q9FR65; 11-399.  
 DR GO: GO:0008415; F:acyltransferase activity; IEA.  
 DR GO: GO:0016740; F:transferase activity; IEA.  
 DR GO: GO:0009058; P:biosynthesis; IEA.  
 DR InterPro: IPR001099; Chal\_sti\_synt\_N.  
 DR InterPro: IPR011141; PKS\_III.  
 DR Pfam: PF00195; Chal\_sti\_synt\_N; 1.  
 DR PIRSF: PIRSF000451; PKS\_III; 1.  
 DR ProDom: PD000453; N-C synthase; 1.  
 DR PROSITE: PS00441; CHALCONE SYNTH; 1.  
 KW Acyltransferase; Transferase.  
 SQ SEQUENCE 399 AA; 43454 MW; 3B40A85A6CD16959 CRC64;

Query Match 81.0%; Score 34; DB 2; Length 399;  
 Best Local Similarity 77.8%; Pred. No. 1.1e+02;  
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
 Db 6 TTTTSLSLD 14

RESULT 12  
 Q4U978\_THEAN PRELIMINARY; PRT; 424 AA.  
 ID Q4U978; THEAN PRELIMINARY;  
 AC Q4U978;  
 DT 13-SEP-2005 (TrEMBLrel. 31, Created)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last sequence update)  
 DT 13-SEP-2005 (TrEMBLrel. 31, Last annotation update)  
 DE Short-chain dehydrogenase/reductase (SDR family member),  
 DE putative.  
 GN ORFNames=TA10920;  
 OS Theileria annulata.  
 OC Eukaryota; Alveolata; Apicomplexa; Piroplasmida; Theileridae;  
 OC Theileria.  
 OX NCBI\_TaxID=5874;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=Ankara isolate clone C9;  
 RA Pain A., Renauld H., Murphy L., Harris D.A., Quail M.A., Berriman M.,  
 RA Hall N., Barrell B.G.;  
 RT "The chromosome 3 genome sequence of Theileria annulata.";  
 RL Submitted (MAR-2005) to the EMBL/GenBank/DBJ databases.  
 CC -1- SIMILARITY: Belongs to the short-chain dehydrogenases/reductases  
 (SDR) family.  
 CC EMBL: CR940353; CAI76625.1; -; Genomic\_DNA.  
 DR InterPro: IPR002198; ADH\_short.  
 DR InterPro: IPR002347; Adh\_short\_C2.  
 DR Pfam: PF00106; adh\_short; 1.  
 DR PRINTS: PR00081; GDRDH.  
 DR PROSITE: PS00080; SDRFAMILY.  
 KW Oxidoreductase.  
 SQ SEQUENCE 424 AA; 48668 MW; F8769AABC459F965 CRC64;

Query Match 81.0%; Score 34; DB 2; Length 424;  
 Best Local Similarity 87.5%; Pred. No. 1.2e+02;  
 Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 STTSLELD 9  
 Db 292 STTSLELD 299

RESULT 13  
 Q7T3Q3\_BRARE PRELIMINARY; PRT; 475 AA.  
 ID Q7T3Q3; BRARE PRELIMINARY;  
 AC Q7T3Q3;  
 DT 01-OCT-2003 (TrEMBLrel. 25, Created)  
 DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)  
 DT 01-FEB-2005 (TrEMBLrel. 29, Last annotation update)  
 DE Cannabinoid receptor-like protein cbl-zf (Cannabinoid receptor  
 DE 1).  
 GN Name=cnrl; ORFNames=CH211-241P10.4-001;  
 OS Brachydanio rerio (zebrafish) (Danio rerio).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Cypriniformes;  
 OC Cyprinidae; Danio.  
 OX NCBI\_TaxID=7955;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Rodriguez R.E., Rodriguez-Martin I., Gonzalez-Sarmiento R.;  
 RL Submitted (SEP-2002) to the EMBL/GenBank/DBJ databases.  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RA Dyer L.;  
 RL Submitted (DEC-2004) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: Integral membrane protein (By similarity).  
 DR EMBL: AV148349; AAN46748.1; -; mRNA.  
 DR EMBL: BX537259; CAI29398.1; -; Genomic DNA.  
 DR Ensembl: ENSDARG0000009020; Danio rerio.  
 DR ZFIN: ZDB-GENE-040312-3; cnrl.  
 DR GO: GO:0016021; C:integral to membrane; IEA.  
 DR GO: GO:0004949; F:cannabinoid receptor activity; IEA.  
 DR GO: GO:0004872; F:receptor activity; IEA.  
 DR GO: GO:0007186; P:G-protein coupled receptor protein signalin...; IEA.  
 DR GO: GO:0007165; P:signal transduction; IEA.  
 DR InterPro: IPR002230; Chnoid receptor.  
 DR InterPro: IPR000810; Chnoid receptor1.  
 DR InterPro: IPR000276; GPCR\_Rhodopsin.  
 DR Pfam: PF00001; 7tm\_1; 1.  
 DR PRINTS: PR00522; CANABINOIDIR.  
 DR PRINTS: PR00362; CANABINOIDS.  
 DR PRINTS: PR00237; GPCR\_RHODOPSIN.  
 DR PROSITE: PS00237; G-PROTEIN\_RECEP\_F1\_1; UNKNOWN\_1.  
 DR PROSITE: PS00262; G-PROTEIN\_RECEP\_F1\_2; 1.  
 KW G-protein coupled receptor; Receptor; Transducer; Transmembrane.  
 SQ SEQUENCE 475 AA; 53044 MW; 98FF62D883605D4 CRC64;

Query Match 81.0%; Score 34; DB 2; Length 475;  
 Best Local Similarity 77.8%; Pred. No. 1.4e+02;  
 Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
 Db 426 TSTTSLELD 434

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 ID Q5XHK0\_XENLA PRELIMINARY;  
 AC Q5XHK0;  
 DT 25-OCT-2004 (TrEMBLrel. 28, Created)  
 DT 25-OCT-2004 (TrEMBLrel. 28, Last sequence update)  
 DT 25-OCT-2004 (TrEMBLrel. 28, Last annotation update)  
 DE LOC494983 protein.  
 GN Name=LOC494983;

OS Xenopus laevis (African clawed frog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;  
OC Xenopodinae; Xenopus; Xenopus.  
OX NCBI\_TaxID=8355;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Embryo;  
RX MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;  
RA Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,  
RA Richardson P.;  
RT "Genetic and genomic tools for Xenopus research: The NIH Xenopus  
RT initiative";  
RL Dev. Dyn. 225:384-391(2002).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Embryo;  
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heide F.,  
RA Datchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
RA Raba S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
RA Fahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
RA Butterfield V.S.N., Krawinski M.I., Skalska U., Smalhus D.E.,  
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
RT "Generation and initial analysis of more than 15,000 full-length human  
RT and mouse cDNA sequences";  
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RN [3]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Embryo;  
RA Klein S., Gerhard D.S.;  
RL Submitted (OCT-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; BC084057; AA084057.1; -; mRNA.  
DR GO; GO:0016021; C:integral to membrane; IEA.  
DR GO; GO:0046872; F:metal ion binding; IEA.  
DR InterPro; IPR001594; Znf\_DHHC.  
DR Pfam; PF01529; zF-DHHC; 1.  
DR ProDom; PD03041; Znf\_DHHC; 1.  
DR PROSITE; PS0216; ZF\_DHHC; 1.  
SQ SEQUENCE 773 AA; 85033 MW; 36BAE3DC5829C706 CRC64;  
  
Query Match 81.0%; Score 34; DB 2; Length 773;  
Best Local Similarity 77.8%; Pred. No. 2.4e+02;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
  
Qy 1 TSTTSLELD 9  
Db 640 TSTTSLELD 648  
  
RESULT 15  
Q88XH5 LACPL PRELIMINARY; PRT; 1010 AA.  
AC Q88XH5;  
DT 01-JUN-2003 (TrEMBLrel. 24, Created)  
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)  
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
DE Cell surface protein.  
GN OrderedLocusNames=lp.1229;  
OS Lactobacillus plantarum.  
OC Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;  
OC Lactobacillus.

OX NCBI\_TaxID=1590;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC STRAIN=NCIMB 8826 / WCFS1;  
RX MEDLINE=22480296; PubMed=12566566; DOI=10.1073/pnas.0337704100;  
RA Kleerebezem M., Boekhorst J., van Kranenburg R., Molenaar D.,  
RA Kuipers O.P., Leer R., Tarchini R., Peters S.A., Sandbrink H.M.,  
RA Fiers M.W.E.J., Stiekema W., Klein Lankhorst R.M., Bron P.A.,  
RA Hoffer S.M., Nierop Groot M.N., Kerkhoven R., De Vries M., Ursing B.,  
RA De Vos W.M., Siezen R.J.;  
RT "Complete genome sequence of Lactobacillus plantarum WCFS1";  
RL Proc. Natl. Acad. Sci. U.S.A. 100:1990-1995(2003).  
DR EMBL; AL935255; CAD63738.1; -; Genomic\_DNA.  
DR GO; GO:0009986; C:cell surface; IEA.  
DR InterPro; IPR004829; Csurface\_antigen.  
DR InterPro; IPR009459; DUF1085.  
DR InterPro; IPR001899; Gram\_pos\_anchor.  
DR Pfam; PF06458; NucBP; 4.  
DR ProDom; PD153432; Csurface\_antigen; 1.  
DR PROSITE; PS50847; GRAM\_POS\_ANCHORING; 1.  
KW Complete proteome.  
SQ SEQUENCE 1010 AA; 107970 MW; 13E7ED8C36D6F859 CRC64;  
  
Query Match 81.0%; Score 34; DB 2; Length 1010;  
Best Local Similarity 77.8%; Pred. No. 3.3e+02;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
  
Qy 1 TSTTSLELD 9  
Db 646 TITTSLELD 654  
  
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Job time : 30.2281 secs

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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:28:10 ; Search time 6.11798 Seconds  
(without alignments)  
121.622 Million cell updates/sec

Title: US-10-691-125-5  
Perfect score: 42  
Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA.\*  
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2: /cgn2\_6/ptodata/1/iaa/6 COMB.pdp.\*  
3: /cgn2\_6/ptodata/1/iaa/H\_COMB.pdp.\*  
4: /cgn2\_6/ptodata/1/iaa/PCITUS COMB.pdp.\*  
5: /cgn2\_6/ptodata/1/iaa/RE COMB.pdp.\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pdp.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	32	2	US-09-623-548A-305
2	42	100.0	32	2	US-09-657-276-305
3	42	100.0	33	1	US-08-064-111C-2
4	42	100.0	33	2	US-09-623-548A-306
5	42	100.0	33	2	US-09-657-276-306
6	42	100.0	56	6	5217896-7
7	42	100.0	141	1	US-08-411-726-5
8	42	100.0	141	6	5217896-3
9	42	100.0	177	2	US-09-643-597-165
10	42	100.0	177	2	US-09-643-597-166
11	42	100.0	177	2	US-09-480-884A-165
12	42	100.0	177	2	US-09-480-884A-166
13	42	100.0	177	2	US-09-542-615A-165
14	42	100.0	177	2	US-09-542-615A-166
15	42	100.0	177	2	US-09-606-421B-165
16	42	100.0	177	2	US-09-606-421B-166
17	42	100.0	177	2	US-09-976-594-447
18	42	100.0	177	2	US-09-466-396A-165
19	42	100.0	177	2	US-09-466-396A-166
20	42	100.0	177	2	US-09-476-496A-165
21	42	100.0	177	2	US-09-476-496A-166
22	42	100.0	177	2	US-09-630-940B-165
23	42	100.0	177	2	US-09-630-940B-166
24	42	100.0	177	2	US-09-285-479-165
25	42	100.0	177	2	US-09-285-479-166
26	42	100.0	177	2	US-10-007-700-165
27	42	100.0	177	2	US-10-007-700-166

Sequence 1, Appli  
Sequence 10164, A  
Sequence 19012, A  
Sequence 15, Appl  
Sequence 15, Appl  
Sequence 15, Appl  
Sequence 42894, A  
Sequence 16966, A  
Sequence 26203, A  
Sequence 4563, Ap  
Sequence 39758, A  
Sequence 5975, A  
Sequence 56912, A  
Sequence 3520, Ap  
Sequence 2, Appli  
Sequence 41668, A  
Sequence 28163, A  
Sequence 22054, A

28 42 100.0 209 1 US-08-064-111C-1  
29 42 100.0 256 2 US-09-949-016-10164  
30 37 88.1 507 2 US-09-248-796A-19012  
31 32 76.2 580 1 US-08-420-235B-15  
32 32 76.2 580 2 US-08-793-624-15  
33 32 76.2 580 4 PCT-US95-10194-15  
34 31 73.8 156 2 US-09-270-767-42894  
35 31 73.8 288 2 US-09-248-796A-16966  
36 31 73.8 322 2 US-09-248-796A-26203  
37 31 73.8 434 2 US-09-328-352-4563  
38 30 71.4 127 2 US-09-270-767-39758  
39 30 71.4 127 2 US-09-270-767-54975  
40 30 71.4 237 2 US-09-270-767-56912  
41 30 71.4 421 2 US-10-104-047-3520  
42 30 71.4 498 2 US-09-965-599-2  
43 30 71.4 716 2 US-09-270-767-41668  
44 29 69.0 209 2 US-09-248-796A-28163  
45 29 69.0 211 2 US-09-248-796A-22054

## ALIGNMENTS

RESULT 1  
US-09-623-548A-305  
; Sequence 305, Application US/09623548A  
; Patent No. 6849714  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudreau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/623,548A  
; CURRENT FILING DATE: 2000-09-05  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: Patentin Ver. 2.1  
; SEQ ID NO 305  
; LENGTH: 32  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-623-548A-305

Query Match 100.0%; Score 42; DB 2; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.14;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9

Db 23 TSTTSLELD 31

## RESULT 2

US-09-657-276-305  
; Sequence 305, Application US/09657276  
; Patent No. 6887470  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique

; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/657,276  
; CURRENT FILING DATE: 2000-09-07  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 305  
; LENGTH: 32  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-657-276-305

Query Match 100.0%; Score 42; DB 2; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.14;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
Db 23 TSTTSLELD 31

RESULT 3  
US-08-064-111C-2  
; Sequence 2, Application US/08064111C  
; Patent No. 5688760  
; GENERAL INFORMATION:  
; APPLICANT: Kemp, Bruce E.  
; APPLICANT: Nicholson, Geoffrey C.  
; APPLICANT: Martin, Thomas J.  
; APPLICANT: Fenton, Anna J.  
; TITLE OF INVENTION: COMPOUNDS AND COMPOSITIONS WHICH INHIBIT  
; TITLE OF INVENTION: BONE RESORPTION  
; NUMBER OF SEQUENCES: 26  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert,  
; ADDRESSEE: Attn: W.H. Dreger  
; STREET: 4 Embarcadero Center, Suite 3400  
; CITY: San Francisco  
; STATE: California  
; COUNTRY: United States  
; ZIP: 94111-4187  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/064,111C  
; FILING DATE: 12-AUG-1993  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/AU91/00580  
; FILING DATE: 13-DEC-1991  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: AU PK9567  
; FILING DATE: 19-NOV-1991  
; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: AU PK3879  
; FILING DATE: 13-DEC-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Dreger, Walter H.  
; REGISTRATION NUMBER: 24,190  
; REFERENCE/DOCKET NUMBER: A-58456/WHD  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (415) 781-1989  
; TELEFAX: (415) 398-3249  
; TELEX: 910 277299  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 33 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-064-111C-2

Query Match 100.0%; Score 42; DB 1; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.14;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
Db 23 TSTTSLELD 31

RESULT 4  
US-09-623-548A-306  
; Sequence 306, Application US/09623548A  
; Patent No. 6849714  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/623,548A  
; CURRENT FILING DATE: 2000-09-05  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 306  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-623-548A-306

Query Match 100.0%; Score 42; DB 2; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.14;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSTTSLELD 9  
Db 21 TSTTSLELD 29

RESULT 5  
US-09-657-276-306

; Sequence 306, Application US/09657276  
; Patent No. 6887470  
; GENERAL INFORMATION:  
; APPLICANT: Conjuchem, Inc.  
; APPLICANT: Bridon, Dominique  
; APPLICANT: Ezrin, Alan  
; APPLICANT: Milner, Peter  
; APPLICANT: Holmes, Darren  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 2110  
; CURRENT APPLICATION NUMBER: US/09/657,276  
; CURRENT FILING DATE: 2000-09-07  
; PRIOR APPLICATION NUMBER: 60/134,406  
; PRIOR FILING DATE: 1999-05-17  
; PRIOR APPLICATION NUMBER: 60/153,406  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR APPLICATION NUMBER: 60/159,783  
; PRIOR FILING DATE: 1999-10-18  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 306  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-09-657-276-306

Query Match 100.0%; Score 42; DB 2; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.14; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 21 TSTTSLELD 29

RESULT 6  
5217896-7  
; Patent No. 5217896  
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS  
; JR., FREDERICK H.; SORVILLO, JOHN M.  
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING  
; PARATHYROID HORMONE-LIKE PROTEIN  
; NUMBER OF SEQUENCES: 8  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/292,263  
; FILING DATE: 30-DEC-1988  
; SEQ ID NO: 7  
; LENGTH: 56  
5217896-7

Query Match 100.0%; Score 42; DB 6; Length 56;  
Best Local Similarity 100.0%; Pred. No. 0.26; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 44 TSTTSLELD 52

RESULT 7  
US-08-411-726-5  
; Sequence 5, Application US/08411726  
; Patent No. 5880093  
; GENERAL INFORMATION:  
; APPLICANT: BAGNOLI, Franco  
; TITLE OF INVENTION: Use of Parathormone, Its Biologically  
; TITLE OF INVENTION: Active Fragments and Correlated Peptides, for The Preparation

; TITLE OF INVENTION: Pharmaceutical Compositions Useful for The Treatment of Pregnal  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Kenyon & Kenyon  
; STREET: 1 Broadway  
; CITY: New York  
; STATE: NY  
; COUNTRY: US  
; ZIP: 10004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: 3.5 Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS 6.2  
; SOFTWARE: WordPerfect 6.1 for Windows  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/411,726  
; FILING DATE: 05-APR-1995  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/EP93/02755  
; FILING DATE: 08-OCT-1993  
; APPLICATION NUMBER: MI-92A002331  
; FILING DATE: 09-OCT-1992  
; ATTORNEY/AGENT INFORMATION:  
; NAME: PALMESE, Maria Luisa  
; REGISTRATION NUMBER: 34,402  
; REFERENCE/DOCKET NUMBER: 2111/1300  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 212-425-7200  
; TELEFAX: 212-425-5288  
; INFORMATION FOR SEQ ID NO: 5:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 141 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-411-726-5

Query Match 100.0%; Score 42; DB 1; Length 141;  
Best Local Similarity 100.0%; Pred. No. 0.71; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 129 TSTTSLELD 137

RESULT 8  
5217896-3  
; Patent No. 5217896  
; APPLICANT: KRAMER, STEVEN P.; VALENZUELA, DAVID M.; REYNOLDS  
; JR., FREDERICK H.; SORVILLO, JOHN M.  
; TITLE OF INVENTION: MONOCLONAL ANTIBODIES RECOGNIZING  
; PARATHYROID HORMONE-LIKE PROTEIN  
; NUMBER OF SEQUENCES: 8  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/292,263  
; FILING DATE: 30-DEC-1988  
; SEQ ID NO: 3  
; LENGTH: 141  
5217896-3

Query Match 100.0%; Score 42; DB 6; Length 141;  
Best Local Similarity 100.0%; Pred. No. 0.71; Indels 0; Gaps 0;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 129 TSTTSLELD 137

RESULT 9

US-09-643-597-165  
; Sequence 165, Application US/09643597  
; Patent No. 6426072  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: McNeill, Patricia D.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C11  
; CURRENT APPLICATION NUMBER: US/09/643,597  
; CURRENT FILING DATE: 2000-08-21  
; NUMBER OF SEQ ID NOS: 369  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-643-597-165

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
Db 165 TSTTSLELD 173

RESULT 10  
US-09-643-597-166  
; Sequence 166, Application US/09643597  
; Patent No. 6426072  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: McNeill, Patricia D.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C11  
; CURRENT APPLICATION NUMBER: US/09/643,597  
; CURRENT FILING DATE: 2000-08-21  
; NUMBER OF SEQ ID NOS: 369  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-643-597-166

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
Db 165 TSTTSLELD 173

RESULT 11  
US-09-480-884A-165  
; Sequence 165, Application US/09480884A  
; Patent No. 6482597  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; FILE REFERENCE: 210121.455C6  
; CURRENT APPLICATION NUMBER: US/09/480,884A  
; CURRENT FILING DATE: 2001-08-27  
; NUMBER OF SEQ ID NOS: 330  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-480-884A-165

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
Db 165 TSTTSLELD 173

RESULT 12  
US-09-480-884A-166  
; Sequence 166, Application US/09480884A  
; Patent No. 6482597  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; FILE REFERENCE: 210121.455C6  
; CURRENT APPLICATION NUMBER: US/09/480,884A  
; CURRENT FILING DATE: 2001-08-27  
; NUMBER OF SEQ ID NOS: 330  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-480-884A-166

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TSTTSLELD 9  
Db 165 TSTTSLELD 173

RESULT 13  
US-09-542-615A-165  
; Sequence 165, Application US/09542615A  
; Patent No. 6518256  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun

; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C8  
; CURRENT APPLICATION NUMBER: US/09/542.615A  
; CURRENT FILING DATE: 2000-04-14  
; NUMBER OF SEQ ID NOS: 350  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-542-615A-165

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|||  
Db 165 TSTTSLELD 173

## RESULT 14

US-09-542-615A-166  
; Sequence 166, Application US/09542615A  
; Patent No. 6518256  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy A.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C8  
; CURRENT APPLICATION NUMBER: US/09/542.615A  
; CURRENT FILING DATE: 2000-04-14  
; NUMBER OF SEQ ID NOS: 350  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-542-615A-166

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|||  
Db 165 TSTTSLELD 173

## RESULT 15

US-09-606-421B-165  
; Sequence 165, Application US/09606421B  
; Patent No. 6531315  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangur, Chaitanya S.  
; APPLICANT: Hosken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yahir A.W.

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C9  
; CURRENT APPLICATION NUMBER: US/09/606.421B  
; CURRENT FILING DATE: 2000-06-28  
; NUMBER OF SEQ ID NOS: 358  
; SOFTWARE: FastSEQ for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-606-421B-165

Query Match 100.0%; Score 42; DB 2; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.91;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|||  
Db 165 TSTTSLELD 173

Search completed: December 2, 2005, 22:38:23  
Job time : 7.11798 secs

**This Page Blank (uspto)**

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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:35:41 ; Search time 20.0225 Seconds  
(without alignments)  
187.812 Million cell updates/sec

Title: US-10-691-125-5  
Perfect score: 42  
Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

#### Database :

Published Applications AA\_Main:  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pcp.\*  
2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pcp.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pcp.\*  
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5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pcp.\*  
6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pcp.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	9	5	US-10-691-125-5
2	42	100.0	12	5	US-10-362-259-8
3	42	100.0	32	6	US-11-066-697-305
4	42	100.0	33	5	US-10-362-259-4
5	42	100.0	33	6	US-11-066-697-306
6	42	100.0	133	4	US-10-398-449-41
7	42	100.0	135	4	US-10-398-449-42
8	42	100.0	139	4	US-10-344-279-1
9	42	100.0	139	4	US-10-258-477-1
10	42	100.0	139	4	US-10-398-449-33
11	42	100.0	141	4	US-10-344-279-2
12	42	100.0	141	4	US-10-258-477-2
13	42	100.0	141	4	US-10-398-449-32
14	42	100.0	141	5	US-10-691-125-1
15	42	100.0	173	4	US-10-344-279-3
16	42	100.0	173	4	US-10-258-477-3
17	42	100.0	175	4	US-10-171-311-192
18	42	100.0	177	3	US-09-735-705-165
19	42	100.0	177	3	US-09-735-705-166
20	42	100.0	177	3	US-09-850-716A-165
21	42	100.0	177	3	US-09-850-716A-166
22	42	100.0	177	3	US-09-897-778-165
23	42	100.0	177	3	US-09-897-778-166
24	42	100.0	177	3	US-09-466-396A-165
25	42	100.0	177	3	US-09-466-396A-166
26	42	100.0	177	4	US-10-007-700-165
27	42	100.0	177	4	US-10-007-700-166

28 42 100.0 177 4 US-10-117-982-165 Sequence 165, App  
29 42 100.0 177 4 US-10-117-982-166 Sequence 166, App  
30 42 100.0 177 4 US-10-313-986-165 Sequence 165, App  
31 42 100.0 177 4 US-10-313-986-166 Sequence 166, App  
32 42 100.0 177 5 US-10-775-972-165 Sequence 165, App  
33 42 100.0 177 5 US-10-775-972-166 Sequence 166, App  
34 42 100.0 177 5 US-10-922-124-165 Sequence 165, App  
35 42 100.0 177 5 US-10-922-124-166 Sequence 166, App  
36 42 100.0 186 5 US-10-450-763-48399 Sequence 48399, A  
37 42 100.0 196 5 US-10-511-698-8 Sequence 8, Appli  
38 42 100.0 202 5 US-10-511-698-9 Sequence 9, Appli  
39 42 100.0 203 4 US-10-398-449-43 Sequence 43, Appl  
40 42 100.0 209 4 US-10-398-449-34 Sequence 34, Appl  
41 42 100.0 209 5 US-10-511-698-7 Sequence 7, Appli  
42 42 100.0 220 5 US-10-450-763-48402 Sequence 48402, A  
43 38 90.5 66 4 US-10-437-963-125086 Sequence 125086,  
44 36 85.7 9 5 US-10-362-259-7 Sequence 7, Appli  
45 36 85.7 170 4 US-10-425-114-47385 Sequence 47385, A

#### ALIGNMENTS

RESULT 1  
US-10-691-125-5  
; Sequence 5, Application US/10691125  
; Publication No. US2005003023A1  
; GENERAL INFORMATION:  
; APPLICANT: Correal, Pierpaolo  
; APPLICANT: Cusi, Maria Grazia  
; APPLICANT: Francini, Guido  
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS  
; FILE REFERENCE: 126442-100004US  
; CURRENT APPLICATION NUMBER: US/10/691.125  
; CURRENT FILING DATE: 2003-10-21  
; NUMBER OF SEQ ID NOS: 9  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 5  
; LENGTH: 9  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; OTHER INFORMATION: PTR-4  
US-10-691-125-5

Query Match 100.0%; Score 42; DB 5; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 1 TSTTSLELD 9

RESULT 2  
US-10-362-259-8  
; Sequence 8, Application US/10362259  
; Publication No. US20050069569A1  
; GENERAL INFORMATION:  
; APPLICANT: BOILEAU, GUY  
; TITLE OF INVENTION: METHOD AND COMPOSITIONS FOR PROMOTING OSTEOGENESIS  
; FILE REFERENCE: 1031-03  
; CURRENT APPLICATION NUMBER: US/10/362,259  
; CURRENT FILING DATE: 2003-02-21  
; PRIOR APPLICATION NUMBER: PCT/CA01/01220  
; PRIOR FILING DATE: 2001-08-23  
; PRIOR APPLICATION NUMBER: 60/227,012  
; PRIOR FILING DATE: 2000-08-23  
; NUMBER OF SEQ ID NOS: 8  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 8  
; LENGTH: 12

; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-362-259-8

Query Match 100.0%; Score 42; DB 5; Length 12;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | |  
Db 2 TSTTSLELD 10

## RESULT 3

US-11-066-697-305  
; Sequence 305, Application US/11066697  
; Publication No. US20050187159A1  
; GENERAL INFORMATION:  
; APPLICANT: Bridon, Dominique P.  
; APPLICANT: Ezrin, Alan M.  
; APPLICANT: Milner, Peter G.  
; APPLICANT: Holmes, Darren L.  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 500862002301  
; CURRENT APPLICATION NUMBER: US/11/066,697  
; CURRENT FILING DATE: 2005-02-25  
; PRIOR FILING DATE: 2005-02-25  
; PRIOR FILING DATE: 2000-09-07  
; PRIOR FILING DATE: 2000-09-07  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR FILING DATE: 1999-10-15  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 305  
; LENGTH: 32  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-11-066-697-305

Query Match 100.0%; Score 42; DB 6; Length 32;  
Best Local Similarity 100.0%; Pred. No. 0.69;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | |  
Db 23 TSTTSLELD 31

## RESULT 4

US-10-362-259-4  
; Sequence 4, Application US/10362259  
; Publication No. US20050069569A1  
; GENERAL INFORMATION:  
; APPLICANT: BOILEAU, GUY  
; TITLE OF INVENTION: METHOD AND COMPOSITIONS FOR PROMOTING OSTEOGENESIS  
; FILE REFERENCE: 1031-03  
; CURRENT APPLICATION NUMBER: US/10/362,259  
; CURRENT FILING DATE: 2003-02-21  
; PRIOR FILING DATE: 2003-02-21  
; PRIOR FILING DATE: PCT/CA01/01220  
; PRIOR FILING DATE: 2001-08-23  
; PRIOR FILING DATE: 60/227,012  
; PRIOR FILING DATE: 2000-08-23  
; NUMBER OF SEQ ID NOS: 8  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 4  
; LENGTH: 33

; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-362-259-4

Query Match 100.0%; Score 42; DB 5; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.71;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | |  
Db 23 TSTTSLELD 31

## RESULT 5

US-11-066-697-306  
; Sequence 306, Application US/11066697  
; Publication No. US20050187159A1  
; GENERAL INFORMATION:  
; APPLICANT: Bridon, Dominique P.  
; APPLICANT: Ezrin, Alan M.  
; APPLICANT: Milner, Peter G.  
; APPLICANT: Holmes, Darren L.  
; APPLICANT: Thibaudau, Karen  
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM  
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD  
; TITLE OF INVENTION: COMPONENTS  
; FILE REFERENCE: 500862002301  
; CURRENT APPLICATION NUMBER: US/11/066,697  
; CURRENT FILING DATE: 2005-02-25  
; PRIOR FILING DATE: 2005-02-25  
; PRIOR FILING DATE: 09/657,276  
; PRIOR FILING DATE: 2000-09-07  
; PRIOR FILING DATE: 2000-09-07  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR FILING DATE: 1999-09-10  
; PRIOR FILING DATE: 1999-10-15  
; NUMBER OF SEQ ID NOS: 1617  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 306  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-11-066-697-306

Query Match 100.0%; Score 42; DB 6; Length 33;  
Best Local Similarity 100.0%; Pred. No. 0.71;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
| | | | |  
Db 21 TSTTSLELD 29

## RESULT 6

US-10-398-449-41  
; Sequence 41, Application US/10398449  
; Publication No. US20040013719A1  
; GENERAL INFORMATION:  
; APPLICANT: Hollick, Michael F.  
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation  
; TITLE OF INVENTION: Using Topically Applied Nucleic Acid Molecules  
; FILE REFERENCE: 1539.0320001  
; CURRENT APPLICATION NUMBER: US/10/398,449  
; CURRENT FILING DATE: 2003-04-04  
; PRIOR FILING DATE: PCT/US01/31082  
; PRIOR FILING DATE: 2001-05-10  
; PRIOR FILING DATE: US 60/238,134  
; PRIOR FILING DATE: 2000-10-06  
; NUMBER OF SEQ ID NOS: 44  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 41



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; LENGTH: 133
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hPTHrP (7-139)
US-10-398-449-41

Query Match      100.0%; Score 42; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 3.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 123 TSTTSLELD 131

RESULT 7
US-10-398-449-42
; Sequence 42, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: HOLLICK, MICHAEL F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 42
; LENGTH: 135
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hPTHrP (7-141)
US-10-398-449-42

Query Match      100.0%; Score 42; DB 4; Length 135;
Best Local Similarity 100.0%; Pred. No. 3.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 123 TSTTSLELD 131

RESULT 8
US-10-344-279-1
; Sequence 1, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-1

Query Match      100.0%; Score 42; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 3.3;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 123 TSTTSLELD 131

RESULT 9
US-10-258-477-1
; Sequence 1, Application US/10258477
; Publication No. US2004001824A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: CELL GROWTH-INHIBITING AGENT
; FILE REFERENCE: PH-1172-PCT
; CURRENT APPLICATION NUMBER: US/10/258,477
; CURRENT FILING DATE: 2003-02-25
; PRIOR APPLICATION NUMBER: JP2000-131793
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: JP2000-173834
; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-258-477-1

Query Match      100.0%; Score 42; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 3.3;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 129 TSTTSLELD 137

RESULT 10
US-10-398-449-33
; Sequence 33, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: HOLICK, MICHAEL F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 33
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hPTHrP (1-139)
US-10-398-449-33

Query Match      100.0%; Score 42; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 3.3;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 129 TSTTSLELD 137

RESULT 11
US-10-344-279-2
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; Sequence 2, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-2

Query Match      100.0%; Score 42; DB 4; Length 141;
Best Local Similarity 100.0%; Pred. No. 3.4;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
Db      129 TSTTSLELD 137

RESULT 12
US-10-258-477-2
; Sequence 2, Application US/10258477
; Publication No. US20040001824A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: CELL GROWTH-INHIBITING AGENT
; FILE REFERENCE: PH-1172-PCT
; CURRENT APPLICATION NUMBER: US/10/258,477
; CURRENT FILING DATE: 2003-02-25
; PRIOR APPLICATION NUMBER: JP2000-131793
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: JP2000-173834
; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-258-477-2

Query Match      100.0%; Score 42; DB 4; Length 141;
Best Local Similarity 100.0%; Pred. No. 3.4;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
Db      129 TSTTSLELD 137

RESULT 13
US-10-398-449-32
; Sequence 32, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Holick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06

; Sequence 2, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 173
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-3

Query Match      100.0%; Score 42; DB 4; Length 173;
Best Local Similarity 100.0%; Pred. No. 4.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
Db      129 TSTTSLELD 137

RESULT 14
US-10-691-125-1
; Sequence 1, Application US/10691125
; Publication No. US20050033023A1
; GENERAL INFORMATION:
; APPLICANT: Correale, Pierpaolo
; APPLICANT: Cusi, Maria Grazia
; APPLICANT: Francini, Guido
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS
; FILE REFERENCE: 126442-100004US
; CURRENT APPLICATION NUMBER: US/10/691,125
; CURRENT FILING DATE: 2003-10-21
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: MISC FEATURE
; OTHER INFORMATION: Human PTH-rp amino acid sequence
US-10-691-125-1

Query Match      100.0%; Score 42; DB 5; Length 141;
Best Local Similarity 100.0%; Pred. No. 3.4;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TSTTSLELD 9
Db      129 TSTTSLELD 137

RESULT 15
US-10-344-279-3
; Sequence 3, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 173
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-3

Query Match      100.0%; Score 42; DB 4; Length 173;
Best Local Similarity 100.0%; Pred. No. 4.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Matches	9;	Conservative	0;	Mismatches	0;	Indels	0;	Gaps	0;
Qy	1	TSTTSLELD	9						
Db	129	TSTTSLELD	137						

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Job time : 20.0225 secs

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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:36:21 ; Search time 0.758427 Seconds  
(without alignments)  
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Title: US-10-691-125-5  
Perfect score: 42  
Sequence: 1 TSTTSLELD 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 26661 seqs, 4788334 residues

Total number of hits satisfying chosen parameters: 26661

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

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- 2: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*
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- 6: /cgn2\_6/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*
- 7: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*
- 8: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	24	7	US-11-058-384-5
2	42	100.0	33	7	US-11-058-384-4
3	42	100.0	33	7	US-11-058-384-9
4	42	100.0	33	7	US-11-058-384-12
5	42	100.0	33	7	US-11-058-384-14
6	42	100.0	175	7	US-11-058-384-2
7	42	100.0	177	6	US-10-623-155-165
8	42	100.0	177	6	US-10-623-155-166
9	39	92.9	33	7	US-11-058-384-10
10	37	88.1	33	7	US-11-058-384-11
11	34	81.0	23	7	US-11-058-384-6
12	31	73.8	33	7	US-11-058-384-8
13	30	71.4	245	7	US-11-054-515-1950
14	29	69.0	182	7	US-11-074-176-218
15	29	69.0	246	7	US-11-054-515-928
16	29	69.0	246	7	US-11-054-515-1308
17	29	69.0	246	7	US-11-054-515-1426
18	29	69.0	246	7	US-11-054-515-1781
19	29	69.0	246	7	US-11-054-515-1818
20	29	69.0	247	7	US-11-054-515-720
21	29	69.0	248	7	US-11-054-515-337
22	29	69.0	248	7	US-11-054-515-339
23	29	69.0	248	7	US-11-054-515-347
24	29	69.0	248	7	US-11-054-515-354
25	29	69.0	248	7	US-11-054-515-394

Sequence 453, App  
Sequence 484, App  
Sequence 597, App  
Sequence 623, App  
Sequence 643, App  
Sequence 1675, App  
Sequence 2, Appli  
Sequence 321, App  
Sequence 322, App  
Sequence 323, App  
Sequence 324, App  
Sequence 325, App  
Sequence 326, App  
Sequence 328, App  
Sequence 329, App  
Sequence 330, App  
Sequence 331, App  
Sequence 332, App  
Sequence 333, App  
Sequence 334, App

#### ALIGNMENTS

##### RESULT 1

US-11-058-384-5  
; Sequence 5, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; APPLICANT: FIASCHI-TAESCH, Nathalie  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: Patent in version 3.3  
; SEQ ID NO 5  
; LENGTH: 24  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-5

Query Match 100.0%; Score 42; DB 7; Length 24;  
Best Local Similarity 100.0%; Pred. No. 0.0015;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
Db 14 TSTTSLELD 22

##### RESULT 2

US-11-058-384-4  
; Sequence 4, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; APPLICANT: FIASCHI-TAESCH, Nathalie  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14

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; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 4
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-4

Query Match      100.0%; Score 42; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0021;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 23 TSTTSLELD 31

RESULT 3
US-11-058-384-9
; Sequence 9, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; PRIOR FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 9
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-9

Query Match      100.0%; Score 42; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0021;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 23 TSTTSLELD 31

RESULT 4
US-11-058-384-12
; Sequence 12, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; PRIOR FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-12

Query Match      100.0%; Score 42; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0021;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 23 TSTTSLELD 31

RESULT 5
US-11-058-384-14
; Sequence 14, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; PRIOR FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 14
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-14

Query Match      100.0%; Score 42; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0021;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 23 TSTTSLELD 31

RESULT 6
US-11-058-384-2
; Sequence 2, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 175
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-2

Query Match      100.0%; Score 42; DB 7; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
Db 165 TSTTSLELD 173

RESULT 7
US-10-623-155-165
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; Sequence 165, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623.155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-623-155-165

Query Match 100.0%; Score 42; DB 6; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.014;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|:|||||  
Db 165 TSTTSLELD 173

## RESULT 8

US-10-623-155-166  
; Sequence 166, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623.155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-623-155-166

Query Match 100.0%; Score 42; DB 6; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.014;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|:|||||  
Db 165 TSTTSLELD 173

## RESULT 9

US-11-058-384-10  
; Sequence 10, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058.384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13

; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 10  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-10

Query Match 92.9%; Score 39; DB 7; Length 33;  
Best Local Similarity 88.9%; Pred. No. 0.009;  
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|:|||||  
Db 23 TATTSLELD 31

## RESULT 10

US-11-058-384-11  
; Sequence 11, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058.384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 11  
; LENGTH: 33  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-11

Query Match 88.1%; Score 37; DB 7; Length 33;  
Best Local Similarity 88.9%; Pred. No. 0.024;  
Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9  
|:|||||  
Db 23 TSTASLELD 31

## RESULT 11

US-11-058-384-6  
; Sequence 6, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058.384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 6  
; LENGTH: 23  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-6

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Query Match      81.0%; Score 34; DB 7; Length 23;
Best Local Similarity 77.8%; Pred. No. 0.067;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   : |||||
Db 13 SGTSLELD 21

RESULT 12
US-11-058-384-8
; Sequence 8, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESCH, Nathalie
; TITLE OF INVENTION: THERP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-8

Query Match      73.8%; Score 31; DB 7; Length 33;
Best Local Similarity 66.7%; Pred. No. 0.43;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   : ||: |||
Db 23 TATAALELD 31

RESULT 13
US-11-054-515-1950
; Sequence 1950, Application US/11054515
; Publication No. US2005025532A1
; GENERAL INFORMATION:
; APPLICANT: Ruben et al.
; TITLE OF INVENTION: Antibodies that Immunospecifically Bind Blys
; FILE REFERENCE: PF523p3
; CURRENT APPLICATION NUMBER: US/11/054,515
; CURRENT FILING DATE: 2005-02-10
; PRIOR APPLICATION NUMBER: 60/543,296
; PRIOR FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: 60/580,347
; PRIOR FILING DATE: 2004-06-18
; PRIOR APPLICATION NUMBER: 10/293,418
; PRIOR FILING DATE: 2002-11-14
; PRIOR APPLICATION NUMBER: 60/331,469
; PRIOR FILING DATE: 2001-11-16
; PRIOR APPLICATION NUMBER: 60/340,817
; PRIOR FILING DATE: 2001-12-19
; PRIOR APPLICATION NUMBER: 09/880,748
; PRIOR FILING DATE: 2001-06-15
; PRIOR APPLICATION NUMBER: 60/293,499
; PRIOR FILING DATE: 2001-03-16
; PRIOR APPLICATION NUMBER: 60/240,816
; PRIOR FILING DATE: 2000-10-17
; Remaining Prior Application data removed - See File Wrapper or PALM.

Query Match      81.0%; Score 34; DB 7; Length 23;
Best Local Similarity 77.8%; Pred. No. 0.067;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   : |||||
Db 13 SGTSLELD 21

RESULT 12
US-11-058-384-8
; Sequence 8, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESCH, Nathalie
; TITLE OF INVENTION: THERP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-8

Query Match      73.8%; Score 31; DB 7; Length 33;
Best Local Similarity 66.7%; Pred. No. 0.43;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   : ||: |||
Db 23 TATAALELD 31

RESULT 13
US-11-054-515-1950
; Sequence 1950, Application US/11054515
; Publication No. US2005025532A1
; GENERAL INFORMATION:
; APPLICANT: Ruben et al.
; TITLE OF INVENTION: Antibodies that Immunospecifically Bind Blys
; FILE REFERENCE: PF523p3
; CURRENT APPLICATION NUMBER: US/11/054,515
; CURRENT FILING DATE: 2005-02-10
; PRIOR APPLICATION NUMBER: 60/543,296
; PRIOR FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: 60/580,347
; PRIOR FILING DATE: 2004-06-18
; PRIOR APPLICATION NUMBER: 10/293,418
; PRIOR FILING DATE: 2002-11-14
; PRIOR APPLICATION NUMBER: 60/331,469
; PRIOR FILING DATE: 2001-11-16
; PRIOR APPLICATION NUMBER: 60/340,817
; PRIOR FILING DATE: 2001-12-19
; PRIOR APPLICATION NUMBER: 09/880,748
; PRIOR FILING DATE: 2001-06-15
; PRIOR APPLICATION NUMBER: 60/293,499
; PRIOR FILING DATE: 2001-03-16
; PRIOR APPLICATION NUMBER: 60/240,816
; PRIOR FILING DATE: 2000-10-17
; Remaining Prior Application data removed - See File Wrapper or PALM.

; NUMBER OF SEQ ID NOS: 3247
; SEQ ID NO 1950
; LENGTH: 245
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-054-515-1950

Query Match      71.4%; Score 30; DB 7; Length 245;
Best Local Similarity 66.7%; Pred. No. 6.9;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   ||| : ||:
Db 76 TSTVSMELN 84

RESULT 14
US-11-074-176-218
; Sequence 218, Application US/11074176
; Publication No. US20050250135A1
; GENERAL INFORMATION:
; APPLICANT: Klaenhammer, Todd R.
; APPLICANT: Russell, William M.
; APPLICANT: Altermann, Eric
; APPLICANT: McAuliffe, Olivia
; APPLICANT: Peril, Andrea Azcarate
; TITLE OF INVENTION: Nucleic Acid Sequences Encoding
; TITLE OF INVENTION: Stress-Related Proteins and Uses Therefore
; FILE REFERENCE: 5051-694
; CURRENT APPLICATION NUMBER: US/11/074,176
; CURRENT FILING DATE: 2005-03-07
; PRIOR APPLICATION NUMBER: 60/551,161
; PRIOR FILING DATE: 2004-03-08
; NUMBER OF SEQ ID NOS: 381
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 218
; LENGTH: 182
; TYPE: PRT
; ORGANISM: Lactobacillus acidophilus
US-11-074-176-218

Query Match      69.0%; Score 29; DB 7; Length 182;
Best Local Similarity 55.6%; Pred. No. 8;
Matches 5; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TSTTSLELD 9
   ||: |||: ||
Db 112 TATTAVKLD 120

RESULT 15
US-11-054-515-928
; Sequence 928, Application US/11054515
; Publication No. US2005025532A1
; GENERAL INFORMATION:
; APPLICANT: Ruben et al.
; TITLE OF INVENTION: Antibodies that Immunospecifically Bind Blys
; FILE REFERENCE: PF523p3
; CURRENT APPLICATION NUMBER: US/11/054,515
; CURRENT FILING DATE: 2005-02-10
; PRIOR APPLICATION NUMBER: 60/543,296
; PRIOR FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: 60/580,347
; PRIOR FILING DATE: 2004-06-18
; PRIOR APPLICATION NUMBER: 10/293,418
; PRIOR FILING DATE: 2002-11-14
; PRIOR APPLICATION NUMBER: 60/331,469
; PRIOR FILING DATE: 2001-11-16
; PRIOR APPLICATION NUMBER: 60/340,817
; PRIOR FILING DATE: 2001-12-19
; PRIOR APPLICATION NUMBER: 09/880,748
; PRIOR FILING DATE: 2001-06-15
; PRIOR APPLICATION NUMBER: 60/293,499
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; PRIOR FILING DATE: 2001-05-25
; PRIOR APPLICATION NUMBER: 60/277,379
; PRIOR FILING DATE: 2001-03-21
; PRIOR APPLICATION NUMBER: 60/276,248
; PRIOR FILING DATE: 2001-03-16
; PRIOR APPLICATION NUMBER: 60/240,816
; PRIOR FILING DATE: 2000-10-17
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 3247
; SEQ ID NO 928
; LENGTH: 246
; TYPE: PRT
; ORGANISM: Homo.sapiens
US-11-054-515-928

Query Match      69.0%; Score 29; DB 7; Length 246;
Best Local Similarity 75.0%; Pred.No. 11;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1 TSTTSLEL 8
      ||| |.||
Db      76 TSTASMEL 83

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Job time : 1.95843 secs
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:35:41 ; Search time 20.0225 Seconds  
(without alignments)  
187.812 Million cell updates/sec

Title: US-10-691-125-4  
Perfect score: 50  
Sequence: 1 WLDSGVGTGS 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0  
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Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA Main:  
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	50	100.0	9	US-10-691-125-4	Sequence 4, Appli
2	50	100.0	21	US-10-362-259-6	Sequence 6, Appli
3	50	100.0	32	US-11-066-697-305	Sequence 305, App
4	50	100.0	33	US-10-362-259-4	Sequence 4, Appli
5	50	100.0	33	US-11-066-697-306	Sequence 306, App
6	50	100.0	133	US-10-398-449-41	Sequence 41, Appl
7	50	100.0	135	US-10-398-449-42	Sequence 42, Appl
8	50	100.0	139	US-10-344-279-1	Sequence 1, Appli
9	50	100.0	139	US-10-258-477-1	Sequence 1, Appli
10	50	100.0	139	US-10-398-449-33	Sequence 33, Appl
11	50	100.0	141	US-10-344-279-2	Sequence 2, Appli
12	50	100.0	141	US-10-258-477-2	Sequence 32, Appl
13	50	100.0	141	US-10-398-449-32	Sequence 32, Appl
14	50	100.0	141	US-10-691-125-1	Sequence 1, Appli
15	50	100.0	173	US-10-344-279-3	Sequence 3, Appli
16	50	100.0	173	US-10-258-477-3	Sequence 3, Appli
17	50	100.0	175	US-10-171-311-192	Sequence 192, App
18	50	100.0	177	US-09-735-705-165	Sequence 165, App
19	50	100.0	177	US-09-735-705-166	Sequence 166, App
20	50	100.0	177	US-09-850-716A-165	Sequence 165, App
21	50	100.0	177	US-09-850-716A-166	Sequence 166, App
22	50	100.0	177	US-09-897-778-165	Sequence 165, App
23	50	100.0	177	US-09-897-778-166	Sequence 166, App
24	50	100.0	177	US-09-466-396A-165	Sequence 165, App
25	50	100.0	177	US-09-466-396A-166	Sequence 166, App
26	50	100.0	177	US-10-007-700-165	Sequence 165, App
27	50	100.0	177	US-10-007-700-166	Sequence 166, App

28	50	100.0	177	4	US-10-117-982-165	Sequence 165, App
29	50	100.0	177	4	US-10-117-982-166	Sequence 166, App
30	50	100.0	177	4	US-10-313-986-165	Sequence 165, App
31	50	100.0	177	4	US-10-313-986-166	Sequence 166, App
32	50	100.0	177	5	US-10-775-972-165	Sequence 165, App
33	50	100.0	177	5	US-10-775-972-166	Sequence 166, App
34	50	100.0	177	5	US-10-922-124-165	Sequence 165, App
35	50	100.0	177	5	US-10-922-124-166	Sequence 166, App
36	50	100.0	186	5	US-10-450-763-48399	Sequence 48399, A
37	50	100.0	196	5	US-10-511-698-8	Sequence 8, Appli
38	50	100.0	202	5	US-10-511-698-9	Sequence 9, Appli
39	50	100.0	203	4	US-10-398-449-43	Sequence 43, Appl
40	50	100.0	209	4	US-10-398-449-34	Sequence 34, Appl
41	50	100.0	209	5	US-10-511-698-7	Sequence 7, Appli
42	50	100.0	220	5	US-10-450-763-48402	Sequence 48402, A
43	42	84.0	319	4	US-10-369-493-16421	Sequence 16421, A
44	40	80.0	92	4	US-10-425-115-344865	Sequence 344865,
45	39	78.0	95	4	US-10-425-115-244957	Sequence 244957,

ALIGNMENTS

RESULT 1  
US-10-691-125-4  
; Sequence 4, Application US/10691125  
; Publication No. US20050033023A1  
; GENERAL INFORMATION:  
; APPLICANT: Corrales, Pierpaolo  
; APPLICANT: Cusi, Maria Grazia  
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS  
; FILE REFERENCE: 126442-100004US  
; CURRENT APPLICATION NUMBER: US/10/691.125  
; CURRENT FILING DATE: 2003-10-21  
; NUMBER OF SEQ ID NOS: 9  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 4  
; LENGTH: 9  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURES:  
; NAME/KEY: MISC FEATURE  
; OTHER INFORMATION: PTR-3  
US-10-691-125-4

Query Match 100.0%; Score 50; DB 5; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDSGVGTGS 9  
| | | | | | | | |  
Db 1 WLDSGVGTGS 9

RESULT 2  
US-10-362-259-6  
; Sequence 6, Application US/10362259  
; Publication No. US2005006596A1  
; GENERAL INFORMATION:  
; APPLICANT: BOILEAU, GUY  
; TITLE OF INVENTION: METHOD AND COMPOSITIONS FOR PROMOTING OSTEOGENESIS  
; FILE REFERENCE: 1031-03  
; CURRENT APPLICATION NUMBER: US/10/362.259  
; CURRENT FILING DATE: 2003-02-21  
; PRIOR APPLICATION NUMBER: PCT/CA01/01220  
; PRIOR FILING DATE: 2001-08-23  
; PRIOR APPLICATION NUMBER: 60/227,012  
; PRIOR FILING DATE: 2000-08-23  
; NUMBER OF SEQ ID NOS: 8  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 6  
; LENGTH: 21

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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-362-259-6

Query Match      100.0%; Score 50; DB 5; Length 21;
Best Local Similarity 100.0%; Pred. No. 0.073;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 3
US-11-066-697-305
; Sequence 305, Application US/11066697
; Publication No. US20050187159A1
; GENERAL INFORMATION:
; APPLICANT: Bridon, Dominique P.
; APPLICANT: Ezrin, Alan M.
; APPLICANT: Milner, Peter G.
; APPLICANT: Holmes, Darren L.
; APPLICANT: Thibaudau, Karen
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
; TITLE OF INVENTION: COMPONENTS
; FILE REFERENCE: 500862002301
; CURRENT APPLICATION NUMBER: US/11/066,697
; CURRENT FILING DATE: 2005-02-25
; PRIOR APPLICATION NUMBER: 09/657,276
; PRIOR FILING DATE: 2000-09-07
; PRIOR APPLICATION NUMBER: 60/153,406
; PRIOR FILING DATE: 1999-09-10
; PRIOR APPLICATION NUMBER: 60/159,783
; PRIOR FILING DATE: 1999-10-15
; NUMBER OF SEQ ID NOS: 1617
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 305
; LENGTH: 32
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Peptide
US-11-066-697-305

Query Match      100.0%; Score 50; DB 6; Length 32;
Best Local Similarity 100.0%; Pred. No. 0.11;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 4
US-10-362-259-4
; Sequence 41, Application US/10362259
; Publication No. US20050069569A1
; GENERAL INFORMATION:
; APPLICANT: BOILEAU, GUY
; TITLE OF INVENTION: METHOD AND COMPOSITIONS FOR PROMOTING OSTEOGENESIS
; FILE REFERENCE: 1031-03
; CURRENT APPLICATION NUMBER: US/10/362,259
; CURRENT FILING DATE: 2003-02-21
; PRIOR APPLICATION NUMBER: PCT/CA01/01220
; PRIOR FILING DATE: 2001-08-23
; PRIOR APPLICATION NUMBER: 60/227,012
; PRIOR FILING DATE: 2000-08-23
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 33

; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-362-259-4

Query Match      100.0%; Score 50; DB 5; Length 21;
Best Local Similarity 100.0%; Pred. No. 0.073;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 5
US-11-066-697-306
; Sequence 306, Application US/11066697
; Publication No. US20050187159A1
; GENERAL INFORMATION:
; APPLICANT: Bridon, Dominique P.
; APPLICANT: Ezrin, Alan M.
; APPLICANT: Milner, Peter G.
; APPLICANT: Holmes, Darren L.
; APPLICANT: Thibaudau, Karen
; TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
; TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
; TITLE OF INVENTION: COMPONENTS
; FILE REFERENCE: 500862002301
; CURRENT APPLICATION NUMBER: US/11/066,697
; CURRENT FILING DATE: 2005-02-25
; PRIOR APPLICATION NUMBER: 09/657,276
; PRIOR FILING DATE: 2000-09-07
; PRIOR APPLICATION NUMBER: 60/153,406
; PRIOR FILING DATE: 1999-09-10
; PRIOR APPLICATION NUMBER: 60/159,783
; PRIOR FILING DATE: 1999-10-15
; NUMBER OF SEQ ID NOS: 1617
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 306
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Peptide
US-11-066-697-306

Query Match      100.0%; Score 50; DB 6; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.11;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 3 WLDGVTGS 11

RESULT 6
US-10-398-449-41
; Sequence 41, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Hollick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; TITLE OF INVENTION: Using Topically Applied Nucleic Acid Molecules
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 41
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; LENGTH: 133
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hpthrp (7-139)
US-10-398-449-41

Query Match      100.0%; Score 50; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 0.44;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 105 WLDGVTGS 113

RESULT 7
US-10-398-449-42
; Sequence 42, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Hollick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 42
; LENGTH: 135
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hpthrp (7-141)
US-10-398-449-42

Query Match      100.0%; Score 50; DB 4; Length 135;
Best Local Similarity 100.0%; Pred. No. 0.45;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 105 WLDGVTGS 113

RESULT 8
US-10-344-279-1
; Sequence 1, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-1

Query Match      100.0%; Score 50; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 111 WLDGVTGS 119

RESULT 9
US-10-258-477-1
; Sequence 1, Application US/10258477
; Publication No. US20040001824A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: CELL GROWTH-INHIBITING AGENT
; FILE REFERENCE: PH-1172-PCT
; CURRENT APPLICATION NUMBER: US/10/258,477
; CURRENT FILING DATE: 2003-02-25
; PRIOR APPLICATION NUMBER: JP2000-131793
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: JP2000-173834
; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-258-477-1

Query Match      100.0%; Score 50; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 111 WLDGVTGS 119

RESULT 10
US-10-398-449-33
; Sequence 33, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Hollick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 33
; LENGTH: 139
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hpthrp (1-139)
US-10-398-449-33

Query Match      100.0%; Score 50; DB 4; Length 139;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 111 WLDGVTGS 119

RESULT 11
US-10-344-279-2
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; Sequence 2, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-2

Query Match      100.0%; Score 50; DB 4; Length 141;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGVTGS 9
Db      111 WLDGVTGS 119

RESULT 12
US-10-258-477-2
; Sequence 2, Application US/10258477
; Publication No. US20040001824A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA
; TITLE OF INVENTION: CELL GROWTH-INHIBITING AGENT
; FILE REFERENCE: PH-1172-PCT
; CURRENT APPLICATION NUMBER: US/10/258,477
; CURRENT FILING DATE: 2003-02-25
; PRIOR APPLICATION NUMBER: JP2000-131793
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: JP2000-173834
; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-258-477-2

Query Match      100.0%; Score 50; DB 4; Length 141;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGVTGS 9
Db      111 WLDGVTGS 119

RESULT 13
US-10-398-449-32
; Sequence 32, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Holick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06

; Sequence 2, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 173
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-3

Query Match      100.0%; Score 50; DB 4; Length 173;
Best Local Similarity 100.0%; Pred. No. 0.58;

Qy      1 WLDGVTGS 9
Db      111 WLDGVTGS 119

RESULT 14
US-10-691-125-1
; Sequence 1, Application US/10691125
; Publication No. US20050033023A1
; GENERAL INFORMATION:
; APPLICANT: Corraale, Pierpaolo
; APPLICANT: Cusi, Maria Grazia
; APPLICANT: Francini, Guido
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS
; FILE REFERENCE: 126442-100004US
; CURRENT APPLICATION NUMBER: US/10/691,125
; CURRENT FILING DATE: 2003-10-21
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: MISC FEATURE
; OTHER INFORMATION: Human PTH-rp amino acid sequence
US-10-691-125-1

Query Match      100.0%; Score 50; DB 5; Length 141;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGVTGS 9
Db      111 WLDGVTGS 119

RESULT 15
US-10-344-279-3
; Sequence 3, Application US/10344279
; Publication No. US20030181373A1
; GENERAL INFORMATION:
; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA
; TITLE OF INVENTION: VESSEL CHALASIA AGENT
; FILE REFERENCE: PH-1247-PCT
; CURRENT APPLICATION NUMBER: US/10/344,279
; CURRENT FILING DATE: 2002-02-10
; PRIOR APPLICATION NUMBER: JP 2000-243873
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 173
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-344-279-3

Query Match      100.0%; Score 50; DB 4; Length 173;
Best Local Similarity 100.0%; Pred. No. 0.58;
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Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 WLDGVTGS 9  
| | | | |  
Db 111 WLDGVTGS 119

Search completed: December 2, 2005, 23:10:42  
Job time : 20.0225 secs

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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:36:21 ; Search time 0.758427 Seconds  
(without alignments)  
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Title: US-10-691-125-4  
Perfect score: 50  
Sequence: 1 WLDGSGVTGS 9

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 26661 seqs, 4788334 residues

Total number of hits satisfying chosen parameters: 26661

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA New:

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2: /cgn2\_6/ptodata/1/pubpaa/US06 NEW PUB.pap.\*  
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4: /cgn2\_6/ptodata/1/pubpaa/US08 NEW PUB.pap.\*  
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	50	100.0	23	7	US-11-058-384-6
2	50	100.0	24	7	US-11-058-384-7
3	50	100.0	33	7	US-11-058-384-4
4	50	100.0	33	7	US-11-058-384-10
5	50	100.0	33	7	US-11-058-384-11
6	50	100.0	33	7	US-11-058-384-12
7	50	100.0	33	7	US-11-058-384-14
8	50	100.0	175	7	US-11-058-384-2
9	50	100.0	177	6	US-10-623-155-165
10	50	100.0	177	6	US-10-623-155-166
11	47	94.0	33	7	US-11-058-384-8
12	47	94.0	33	7	US-11-058-384-9
13	35	70.0	537	7	US-11-109-156-28
14	35	70.0	837	6	US-10-467-657-1464
15	33	66.0	561	6	US-10-467-657-624
16	33	66.0	684	6	US-11-065-943-52
17	32	64.0	390	6	US-10-467-657-4288
18	32	64.0	409	6	US-10-467-657-5732
19	32	64.0	409	6	US-10-467-657-7450
20	32	64.0	446	6	US-10-467-657-6594
21	32	64.0	675	6	US-10-467-657-3802
22	32	64.0	705	7	US-11-102-240-162
23	31	62.0	159	7	US-11-174-150-31
24	31	62.0	209	6	US-10-821-234-996
25	31	62.0	334	7	US-11-055-822-24

Sequence 126, App  
Sequence 40, Appl  
Sequence 50, Appl  
Sequence 54, Appl  
Sequence 58, Appl  
Sequence 42, Appl  
Sequence 48, Appl  
Sequence 52, Appl  
Sequence 56, Appl  
Sequence 44, Appl  
Sequence 139, App  
Sequence 46, Appl  
Sequence 218, App  
Sequence 1068, App  
Sequence 442, App  
Sequence 1636, App  
Sequence 720, App  
Sequence 16, Appl  
Sequence 115, Appl

26 31 62.0 451 6 US-10-131-826A-126  
27 31 62.0 1127 7 US-11-077-550-40  
28 31 62.0 1127 7 US-11-077-550-50  
29 31 62.0 1127 7 US-11-077-550-54  
30 31 62.0 1127 7 US-11-077-550-58  
31 31 62.0 1129 7 US-11-077-550-42  
32 31 62.0 1129 7 US-11-077-550-48  
33 31 62.0 1129 7 US-11-077-550-52  
34 31 62.0 1129 7 US-11-077-550-56  
35 31 62.0 1130 7 US-11-077-550-44  
36 31 62.0 1130 7 US-11-077-550-139  
37 31 62.0 1132 7 US-11-077-550-46  
38 31 62.0 1432 6 US-10-510-386-218  
39 31 62.0 5179 7 US-11-108-172-1068  
40 30 60.0 117 6 US-10-131-826A-442  
41 30 60.0 187 6 US-10-467-657-1636  
42 30 60.0 257 6 US-10-467-657-720  
43 30 60.0 273 7 US-11-113-424-16  
44 30 60.0 273 7 US-11-113-424-18  
45 30 60.0 404 7 US-11-069-642-115

#### ALIGNMENTS

RESULT 1  
US-11-058-384-6  
; Sequence 6, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; APPLICANT: FIASCHI-TAESCH, Nathalie  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 6  
; LENGTH: 23  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; US-11-058-384-6

Query Match 100.0%; Score 50; DB 7; Length 23;  
Best Local Similarity 100.0%; Pred. No. 0.001;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGSGVTGS 9  
Db 5 WLDGSGVTGS 13

RESULT 2  
US-11-058-384-7  
; Sequence 7, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; APPLICANT: FIASCHI-TAESCH, Nathalie  
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; CURRENT FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14

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; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 7
; LENGTH: 24
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-7

Query Match      100.0%; Score 50; DB 7; Length 24;
Best Local Similarity 100.0%; Pred. No. 0.001;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 3
US-11-058-384-4
; Sequence 4, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 4
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-4

Query Match      100.0%; Score 50; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 4
US-11-058-384-10
; Sequence 10, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 10
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-10

Query Match      100.0%; Score 50; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 5
US-11-058-384-11
; Sequence 11, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 11
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-11

Query Match      100.0%; Score 50; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 6
US-11-058-384-12
; Sequence 12, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-12

Query Match      100.0%; Score 50; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
Db 5 WLDGVTGS 13

RESULT 7
US-11-058-384-14
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; Sequence 14, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESCH, Nathalie
; TITLE OF INVENTION: PTHR-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; PRIOR FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 14
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-14

Query Match      100.0%; Score 50; DB 7; Length 33;
Best Local Similarity 100.0%; Pred. No. 0.0014;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
Db      5 WLDGSGVTGS 13

RESULT 8
US-11-058-384-2
; Sequence 2, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESCH, Nathalie
; TITLE OF INVENTION: PTHR-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 175
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-2

Query Match      100.0%; Score 50; DB 7; Length 175;
Best Local Similarity 100.0%; Pred. No. 0.0072;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
Db      147 WLDGSGVTGS 155

RESULT 9
US-10-623-155-165
; Sequence 165, Application US/10623155
; Publication No. US20050261166A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Peckham, David W.
; APPLICANT: Retter, Marc W.
; APPLICANT: Fanger, Gary R.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; AND DIAGNOSIS OF LUNG CANCER

; FILE REFERENCE: 210121.455C20
; CURRENT APPLICATION NUMBER: US/10/623,155
; CURRENT FILING DATE: 2003-07-17
; NUMBER OF SEQ ID NOS: 560
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-623-155-165

Query Match      100.0%; Score 50; DB 6; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.0072;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
Db      147 WLDGSGVTGS 155

RESULT 10
US-10-623-155-166
; Sequence 166, Application US/10623155
; Publication No. US20050261166A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Peckham, David W.
; APPLICANT: Retter, Marc W.
; APPLICANT: Fanger, Gary R.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; AND DIAGNOSIS OF LUNG CANCER

; FILE REFERENCE: 210121.455C20
; CURRENT APPLICATION NUMBER: US/10/623,155
; CURRENT FILING DATE: 2003-07-17
; NUMBER OF SEQ ID NOS: 560
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-623-155-166

Query Match      100.0%; Score 50; DB 6; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.0072;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 WLDGSGVTGS 9
Db      147 WLDGSGVTGS 155

RESULT 11
US-11-058-384-8
; Sequence 8, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESCH, Nathalie
; TITLE OF INVENTION: PTHR-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-8
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Query Match          94.0%; Score 47; DB 7; Length 33;
Best Local Similarity 88.9%; Pred. No. 0.005;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
   |||||
Db 5 WLDGVTGA 13

RESULT 12
US-11-058-384-9
; Sequence 9, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; APPLICANT: FIASCHI-TAESH, Nathalie
; TITLE OF INVENTION: FTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 9
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-9

Query Match          94.0%; Score 47; DB 7; Length 33;
Best Local Similarity 88.9%; Pred. No. 0.005;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
   |||||
Db 5 WLDGVTGA 13

RESULT 13
US-11-109-156-28
; Sequence 28, Application US/11109156
; Publication No. US20050250144A1
; GENERAL INFORMATION:
; APPLICANT: Toshio Ota
; APPLICANT: Takao Isogai
; APPLICANT: Tetsuo Nishikawa
; APPLICANT: Koji Hayaashi
; APPLICANT: Kaoru Otsuka
; APPLICANT: Jun-ichi Yamamoto
; APPLICANT: Shizuko Ishii
; APPLICANT: Tomoyasu Sugiyama
; APPLICANT: Ai Wakamatsu
; APPLICANT: Keiichi Nagai
; APPLICANT: Tetsuji Otsuki
; APPLICANT: Shin-ichi Funahashi
; APPLICANT: Chiaki Senoo
; APPLICANT: Jun-ichi Nezu
; TITLE OF INVENTION: NOVEL GENES ENCODING PROTEIN KINASE/PROTEIN
; FILE REFERENCE: PHOSPHATASE
; FILE REFERENCE: 06501-099002
; CURRENT APPLICATION NUMBER: US/11/109,156
; CURRENT FILING DATE: 2005-04-19
; PRIOR APPLICATION NUMBER: US/10/060,065
; PRIOR FILING DATE: 2002-01-29
; PRIOR APPLICATION NUMBER: PCT/JP00/05061
; PRIOR FILING DATE: 2000-07-28
; PRIOR APPLICATION NUMBER: US 60/159,590
; PRIOR FILING DATE: 1999-10-18
; PRIOR APPLICATION NUMBER: US 60/183,322
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; PRIOR FILING DATE: 2000-02-17
; PRIOR APPLICATION NUMBER: JP 11-248036
; PRIOR FILING DATE: 1999-07-29
; PRIOR APPLICATION NUMBER: JP 2000-118776
; PRIOR FILING DATE: 2000-01-11
; PRIOR APPLICATION NUMBER: JP 2000-183767
; PRIOR FILING DATE: 2000-05-02
; PRIOR APPLICATION NUMBER: JP 2000-241899
; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 537
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-109-156-28

Query Match          70.0%; Score 35; DB 7; Length 537;
Best Local Similarity 75.0%; Pred. No. 11;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 WLDGVTG 8
   |||||
Db 107 WLDSGTGW 114

RESULT 14
US-10-467-657-1464
; Sequence 1464, Application US/10467657
; Publication No. US20050260581A1
; GENERAL INFORMATION:
; APPLICANT: CHIRON SpA
; APPLICANT: FONTANA Maria Rita
; APPLICANT: PIZZA Mariagrazia
; APPLICANT: MASIGNANI Vega
; APPLICANT: MONACI Elisabetta
; TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
; FILE REFERENCE:
; CURRENT APPLICATION NUMBER: US/10/467,657
; CURRENT FILING DATE: 2003-08-11
; PRIOR APPLICATION NUMBER: GB-0103424.8
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 9218
; SOFTWARE: SeqWin99, version 1.04
; SEQ ID NO 1464
; LENGTH: 837
; TYPE: PRT
; ORGANISM: Neisseria gonorrhoeae
US-10-467-657-1464

Query Match          70.0%; Score 35; DB 6; Length 837;
Best Local Similarity 66.7%; Pred. No. 18;
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 WLDGVTGS 9
   |||||
Db 634 WSDSGVEGA 642

RESULT 15
US-10-467-657-624
; Sequence 624, Application US/10467657
; Publication No. US20050260581A1
; GENERAL INFORMATION:
; APPLICANT: CHIRON SpA
; APPLICANT: FONTANA Maria Rita
; APPLICANT: PIZZA Mariagrazia
; APPLICANT: MASIGNANI Vega
; APPLICANT: MONACI Elisabetta
; TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
; FILE REFERENCE:
; CURRENT APPLICATION NUMBER: US/10/467,657
; CURRENT FILING DATE: 2003-08-11
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; PRIOR APPLICATION NUMBER: GB-0103424.8
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 9218
; SOFTWARE: SeqWin99, version 1.04
; SEQ ID NO 624
; LENGTH: 561
; TYPE: PRT
; ORGANISM: Neisseria gonorrhoeae
US-10-467-657-624
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Query Match      66.0%; Score 33; DB 6; Length 561;
Best Local Similarity 53.8%; Pred. No. 28;
Matches 7; Conservative 2; Mismatches 0; Indels 4; Gaps 1;
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Qy      1 WLDGCV---TGS 9
      ||:||: |||
Db      234 WLESGINITYTGS 246
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Search completed: December 2, 2005, 23:11:04
Job time : 1.95843 secs
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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:35:41 ; Search time 22.2472 Seconds  
(without alignments)  
187.812 Million cell updates/sec

Title: US-10-691-125-3  
Perfect score: 55  
Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA Main:  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*  
2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
4: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pep.\*  
5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pep.\*  
6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	55	100.0	10	5	US-10-691-125-3
2	55	100.0	17	5	US-10-428-377-14
3	55	100.0	21	5	US-10-428-377-10
4	55	100.0	27	3	US-09-843-221A-73
5	55	100.0	27	3	US-09-843-221A-74
6	55	100.0	27	3	US-09-999-608-73
7	55	100.0	27	3	US-09-999-608-74
8	55	100.0	27	4	US-10-839-037-73
9	55	100.0	27	4	US-10-839-037-74
10	55	100.0	28	3	US-09-843-221A-68
11	55	100.0	28	3	US-09-843-221A-69
12	55	100.0	28	3	US-09-843-221A-70
13	55	100.0	28	3	US-09-843-221A-71
14	55	100.0	28	3	US-09-843-221A-72
15	55	100.0	28	3	US-09-843-221A-75
16	55	100.0	28	3	US-09-843-221A-169
17	55	100.0	28	3	US-09-999-608-68
18	55	100.0	28	3	US-09-999-608-69
19	55	100.0	28	3	US-09-999-608-70
20	55	100.0	28	3	US-09-999-608-71
21	55	100.0	28	3	US-09-999-608-72
22	55	100.0	28	3	US-09-999-608-75
23	55	100.0	28	3	US-09-999-608-167
24	55	100.0	28	4	US-10-097-079-77
25	55	100.0	28	4	US-10-839-037-68
26	55	100.0	28	4	US-10-839-037-69
27	55	100.0	28	4	US-10-839-037-70

Sequence 71, Appl  
Sequence 72, Appl  
Sequence 75, Appl  
Sequence 169, Appl  
Sequence 2, Appl  
Sequence 5, Appl  
Sequence 30, Appl  
Sequence 36, Appl  
Sequence 40, Appl  
Sequence 13, Appl  
Sequence 38, Appl  
Sequence 67, Appl  
Sequence 67, Appl  
Sequence 296, Appl  
Sequence 5, Appl  
Sequence 75, Appl  
Sequence 63, Appl

28 4 US-10-839-037-71  
28 4 US-10-839-037-72  
28 4 US-10-839-037-75  
28 4 US-10-839-037-169  
28 5 US-10-428-377-2  
28 5 US-10-428-377-5  
28 6 US-11-066-697-300  
29 4 US-10-398-449-36  
30 4 US-10-398-449-40  
32 4 US-10-398-449-13  
32 4 US-10-398-449-38  
33 3 US-09-843-221A-67  
33 3 US-09-999-608-67  
33 4 US-10-839-037-67  
33 6 US-11-066-697-296  
34 3 US-09-169-786-5  
34 3 US-09-423-800-75  
34 3 US-09-843-221A-63

## ALIGNMENTS

RESULT 1  
US-10-691-125-3  
; Sequence 3, Application US/10691125  
; Publication No. US20050033023A1  
; GENERAL INFORMATION:  
; APPLICANT: Corraale, Pierpaolo  
; APPLICANT: Cusi, Maria Grazia  
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS  
; FILE REFERENCE: 126442-100004US  
; CURRENT APPLICATION NUMBER: US/10/691,125  
; CURRENT FILING DATE: 2003-10-21  
; NUMBER OF SEQ ID NOS: 9  
; SOFTWARE: Patent in version 3.2  
; SEQ ID NO 3  
; LENGTH: 10  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; OTHER INFORMATION: PTR-2  
US-10-691-125-3

Query Match 100.0%; Score 55; DB 5; Length 10;  
Best Local Similarity 100.0%; Pred. No. 0.012;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
Db 1 FLHLLIAEIH 10

RESULT 2  
US-10-428-377-14  
; Sequence 14, Application US/10428377  
; Publication No. US20040220094A1  
; GENERAL INFORMATION:  
; APPLICANT: Skinner, Keith  
; TITLE OF INVENTION: INVERSE AGONIST AND AGONIST PEPTIDES  
; FILE REFERENCE: 549042000100  
; CURRENT APPLICATION NUMBER: US/10/428,377  
; CURRENT FILING DATE: 2003-05-01  
; NUMBER OF SEQ ID NOS: 48  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 14  
; LENGTH: 17  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-428-377-14

Query Match 100.0%; Score 55; DB 5; Length 17;  
Best Local Similarity 100.0%; Pred. No. 0.02; Mismatches 0; Indels 0; Gaps 0;  
Matches 10; Conservative 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 6 FLHHLIAEIH 15

RESULT 3  
US-10-428-377-10  
; Sequence 10, Application US/10428377  
; Publication No. US20040220094A1  
; GENERAL INFORMATION:  
; APPLICANT: Skinner, Keith  
; TITLE OF INVENTION: INVERSE AGONIST AND AGONIST PEPTIDES  
; TITLE OF INVENTION: THAT STIMULATE/INHIBIT HAIR GROWTH  
; FILE REFERENCE: 549042000100  
; CURRENT APPLICATION NUMBER: US/10/428,377  
; CURRENT FILING DATE: 2003-05-01  
; NUMBER OF SEQ ID NOS: 48  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 10  
; LENGTH: 21  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-428-377-10

Query Match 100.0%; Score 55; DB 5; Length 21;  
Best Local Similarity 100.0%; Pred. No. 0.025; Mismatches 0; Indels 0; Gaps 0;  
Matches 10; Conservative 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 10 FLHHLIAEIH 19

RESULT 4  
US-09-843-221A-73  
; Sequence 73, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 73  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrP  
; NAME/KEY: misc feature  
; LOCATION: (5)-(5)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-73

Query Match 100.0%; Score 55; DB 3; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033; Mismatches 0; Indels 0; Gaps 0;  
Matches 10; Conservative 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 16 FLHHLIAEIH 25

RESULT 5  
US-09-843-221A-74  
; Sequence 74, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 74  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrP  
; NAME/KEY: misc feature  
; LOCATION: (5)-(5)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-74

Query Match 100.0%; Score 55; DB 3; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033; Mismatches 0; Indels 0; Gaps 0;  
Matches 10; Conservative 0;

Qy 1 FLHHLIAEIH 10  
| | | | | | | |  
Db 16 FLHHLIAEIH 25

RESULT 6  
US-09-999-608-73  
; Sequence 73, Application US/09999608  
; Publication No. US20050124537A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: GEGG, COLIN V.  
; APPLICANT: JAROSINSKI, MARK ANTHONY  
; APPLICANT: KINSTLER, OLAF BORIS  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: HORMONE-RELATED PROTEIN  
; FILE REFERENCE: A-665C  
; CURRENT APPLICATION NUMBER: US/09/999,608  
; CURRENT FILING DATE: 2002-03-11  
; PRIOR APPLICATION NUMBER: US 09/843,221  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: US 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: US 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: US 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 193  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 73  
; LENGTH: 27



; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrp  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (5)..(5)  
; OTHER INFORMATION: D amino acid  
US-09-999-608-73

Query Match 100.0%; Score 55; DB 3; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
|||  
Db 16 FLHLLIAEIH 25

RESULT 7  
US-09-999-608-74  
; Sequence 74, Application US/09999608  
; Publication No. US20050124537A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: JEGG, COLIN V.  
; APPLICANT: JAROSINSKI, MARK ANTHONY  
; APPLICANT: KINSTLER, OLAF BORIS  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID  
; FILE REFERENCE: A-665C  
; CURRENT APPLICATION NUMBER: US/09/999,608  
; CURRENT FILING DATE: 2002-03-11  
; PRIOR APPLICATION NUMBER: US 09/843,221  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: US 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: US 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: US 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 193  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 74  
; LENGTH: 27

; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrp  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (5)..(5)  
; OTHER INFORMATION: D amino acid  
US-09-999-608-74

Query Match 100.0%; Score 55; DB 3; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
|||  
Db 16 FLHLLIAEIH 25

RESULT 8  
US-10-839-037-73  
; Sequence 73, Application US/10839037  
; Publication No. US20040214996A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H

; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/10/839,037  
; CURRENT FILING DATE: 2004-05-04  
; PRIOR APPLICATION NUMBER: US/09/843,221A  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 73  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrp  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (5)..(5)  
; OTHER INFORMATION: D amino acid  
US-10-839-037-73

Query Match 100.0%; Score 55; DB 4; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHLLIAEIH 10  
|||  
Db 16 FLHLLIAEIH 25

RESULT 9  
US-10-839-037-74  
; Sequence 74, Application US/10839037  
; Publication No. US20040214996A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/10/839,037  
; CURRENT FILING DATE: 2004-05-04  
; PRIOR APPLICATION NUMBER: US/09/843,221A  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 74  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified PTHrp  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (5)..(5)  
; OTHER INFORMATION: D amino acid  
US-10-839-037-74

Query Match 100.0%; Score 55; DB 4; Length 27;  
Best Local Similarity 100.0%; Pred. No. 0.033;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 FLHLLIAEIH 10
      |||||
Db     16 FLHLLIAEIH 25

RESULT 10
US-09-843-221A-68
; Sequence 68, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUIK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 68
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-843-221A-68

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHLLIAEIH 10
      |||||
Db     17 FLHLLIAEIH 26

RESULT 11
US-09-843-221A-69
; Sequence 69, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUIK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 69
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-69

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
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Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHLLIAEIH 10
      |||||
Db     17 FLHLLIAEIH 26

RESULT 12
US-09-843-221A-70
; Sequence 70, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUIK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 70
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified PTHrP
US-09-843-221A-70

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHLLIAEIH 10
      |||||
Db     17 FLHLLIAEIH 26

RESULT 13
US-09-843-221A-71
; Sequence 71, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUIK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 71
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
; NAME/KEY: misc_feature
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; LOCATION: (6)..(6)
; OTHER INFORMATION: D amino acid
US-09-843-221A-71

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHHLIAEIH 10
Db      17 FLHHLIAEIH 26

RESULT 14
US-09-843-221A-72
; Sequence 72, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 72
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified PTHR
; NAME/KEY: misc feature
; LOCATION: (6)..(6)
; OTHER INFORMATION: D amino acid
US-09-843-221A-72

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHHLIAEIH 10
Db      17 FLHHLIAEIH 26

RESULT 15
US-09-843-221A-75
; Sequence 75, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; TITLE OF INVENTION: RELATED PROTEIN
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
```

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; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
; LENGTH: 28
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHR
; NAME/KEY: misc feature
; LOCATION: (6)..(6)
; OTHER INFORMATION: D amino acid
US-09-843-221A-75

Query Match      100.0%; Score 55; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 0.034;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 FLHHLIAEIH 10
Db      17 FLHHLIAEIH 26

Search completed: December 2, 2005, 23:10:42
Job time : 23.2472 secs
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:36:21 ; Search time 0.842697 Seconds  
(without alignments)  
56.822 Million cell updates/sec

Title: US-10-691-125-3  
Perfect score: 55  
Sequence: 1 FLHLLIAEIH 10

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 26661 seqs, 4788334 residues

Total number of hits satisfying chosen parameters: 26661

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA New:  
1: /cgn2\_6/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*  
2: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*  
4: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
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7: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
8: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	55	100.0	175	7 US-11-058-384-2	Sequence 2, Appli
2	55	100.0	177	6 US-10-623-155-165	Sequence 165, App
3	55	100.0	177	6 US-10-623-155-166	Sequence 166, App
4	36	65.5	447	6 US-10-858-730-220	Sequence 220, App
5	34	61.8	265	6 US-10-467-657-6590	Sequence 6590, Ap
6	34	61.8	265	6 US-10-467-657-7654	Sequence 7654, Ap
7	34	61.8	468	6 US-10-957-569-28	Sequence 28, Appl
8	33	60.0	292	6 US-10-793-626-2636	Sequence 2636, Ap
9	33	60.0	490	6 US-10-507-106-2	Sequence 2, Appli
10	33	60.0	524	6 US-10-507-106-4	Sequence 4, Appli
11	33	60.0	664	6 US-10-793-626-346	Sequence 346, App
12	33	60.0	1141	6 US-10-601-368-6	Sequence 6, Appli
13	33	60.0	1141	6 US-10-601-368-24	Sequence 24, Appl
14	33	60.0	1166	6 US-10-601-368-4	Sequence 4, Appli
15	33	60.0	1166	6 US-10-601-368-22	Sequence 22, Appl
16	33	60.0	1188	6 US-10-601-368-3	Sequence 3, Appli
17	33	60.0	1188	6 US-10-601-368-21	Sequence 21, Appl
18	31	56.4	133	6 US-10-821-234-967	Sequence 967, App
19	31	56.4	341	7 US-11-055-822-1054	Sequence 1054, Ap
20	31	56.4	691	6 US-10-467-657-7170	Sequence 7170, Ap
21	31	56.4	871	6 US-10-467-657-4588	Sequence 4588, Ap
22	31	56.4	871	6 US-10-467-657-7182	Sequence 7182, Ap
23	30.5	55.5	618	6 US-10-858-730-74	Sequence 74, Appl
24	30	54.5	232	6 US-10-467-962B-87	Sequence 87, Appl
25	30	54.5	254	6 US-10-793-626-902	Sequence 902, App

26	30	54.5	338	6	US-10-793-626-320	Sequence 320, App
27	30	54.5	404	6	US-10-467-657-9211	Sequence 9211, App
28	30	54.5	405	6	US-10-793-626-232	Sequence 232, App
29	30	54.5	504	7	US-11-029-465-6	Sequence 6, Appli
30	30	54.5	505	7	US-11-029-465-8	Sequence 8, Appli
31	30	54.5	628	7	US-11-074-176-244	Sequence 244, App
32	30	54.5	745	7	US-11-109-156-14	Sequence 14, Appli
33	30	54.5	1394	6	US-10-467-657-7930	Sequence 7930, Ap
34	29.5	53.6	795	6	US-10-821-234-1002	Sequence 1002, Ap
35	29	52.7	114	6	US-10-793-626-2112	Sequence 2112, Ap
36	29	52.7	114	6	US-10-793-626-2392	Sequence 2392, Ap
37	29	52.7	141	6	US-10-467-657-5544	Sequence 5544, Ap
38	29	52.7	175	7	US-11-098-662-86	Sequence 86, Appli
39	29	52.7	175	7	US-11-098-662-90	Sequence 90, Appli
40	29	52.7	175	7	US-11-098-662-94	Sequence 94, Appli
41	29	52.7	175	7	US-11-098-662-98	Sequence 98, Appli
42	29	52.7	175	7	US-11-098-662-124	Sequence 124, App
43	29	52.7	176	7	US-11-098-662-40	Sequence 40, Appli
44	29	52.7	176	7	US-11-098-662-88	Sequence 88, Appli
45	29	52.7	176	7	US-11-098-662-92	Sequence 92, Appli

#### ALIGNMENTS

RESULT 1  
US-11-058-384-2  
; Sequence 2, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; APPLICANT: FIASCHI-TAESCH, Nathalie  
; TITLE OF INVENTION: PTHP-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; PRIOR FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: Patent in version 3.3  
; SEQ ID NO 2  
; LENGTH: 175  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-2

Query Match 100.0%; Score 55; DB 7; Length 175;  
Best Local Similarity 100.0%; Pred. No. 0.0015;  
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FLHLLIAEIH 10  
DB 59 FLHLLIAEIH 68

RESULT 2  
US-10-623-155-165  
; Sequence 165, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fauger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623,155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSeq for Windows Version 4.0

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; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-623-155-165

Query Match      100.0%; Score 55; DB 6; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.0015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10
Db 59 FLHHLIAEIH 68

RESULT 3
US-10-623-155-166
; Sequence 166, Application US/10623155
; Publication No. US20050261166A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Peckham, David W.
; APPLICANT: Retter, Marc W.
; APPLICANT: Fanger, Gary R.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C20
; CURRENT APPLICATION NUMBER: US/10/623.155
; CURRENT FILING DATE: 2003-07-17
; NUMBER OF SEQ ID NOS: 560
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-623-155-166

Query Match      100.0%; Score 55; DB 6; Length 177;
Best Local Similarity 100.0%; Pred. No. 0.0015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 10
Db 59 FLHHLIAEIH 68

RESULT 4
US-10-858-730-220
; Sequence 220, Application US/10858730
; Publication No. US20050255568A1
; GENERAL INFORMATION:
; APPLICANT: Bailey, Richard B.
; APPLICANT: Blomquist, Paul
; APPLICANT: Doten, Reed
; APPLICANT: Driggers, Edward M.
; APPLICANT: Madden, Kevin T.
; APPLICANT: O'Leary, Jessica
; APPLICANT: O'Toole, George
; APPLICANT: Trueheart, Joshua
; APPLICANT: Walbridge, Michael J.
; APPLICANT: Yorgev, Peter S.
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR AMINO ACID
; FILE REFERENCE: 14184-030001
; CURRENT APPLICATION NUMBER: US/10/858.730
; CURRENT FILING DATE: 2004-06-01
; PRIOR APPLICATION NUMBER: US 60/475,000
; PRIOR FILING DATE: 2003-05-30
; PRIOR APPLICATION NUMBER: US 60/551,860
; PRIOR FILING DATE: 2004-03-10
; NUMBER OF SEQ ID NOS: 364
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 220
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; LENGTH: 447
; TYPE: PRT
; ORGANISM: Escherichia coli
US-10-858-730-220

Query Match      65.5%; Score 36; DB 6; Length 447;
Best Local Similarity 55.6%; Pred. No. 8.8;
Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Qy 2 LHHLIAEIH 10
Db 402 LHHMLDIH 410

RESULT 5
US-10-467-657-6590
; Sequence 6590, Application US/10467657
; Publication No. US20050260581A1
; GENERAL INFORMATION:
; APPLICANT: CHIRON SpA
; APPLICANT: FONTANA Maria Rita
; APPLICANT: PIZZA Mariagrazia
; APPLICANT: MASIGNANI Vega
; APPLICANT: MONACI Elisabetta
; TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
; FILE REFERENCE:
; CURRENT APPLICATION NUMBER: US/10/467,657
; CURRENT FILING DATE: 2003-08-11
; PRIOR APPLICATION NUMBER: GB-0103424.8
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 9218
; SOFTWARE: SeqWin99, version 1.04
; SEQ ID NO 6590
; LENGTH: 265
; TYPE: PRT
; ORGANISM: Neisseria gonorrhoeae
US-10-467-657-6590

Query Match      61.8%; Score 34; DB 6; Length 265;
Best Local Similarity 55.6%; Pred. No. 11;
Matches 5; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 FLHHLIAEIH 9
Db 197 FLHLMVRNI 205

RESULT 6
US-10-467-657-7654
; Sequence 7654, Application US/10467657
; Publication No. US20050260581A1
; GENERAL INFORMATION:
; APPLICANT: CHIRON SpA
; APPLICANT: FONTANA Maria Rita
; APPLICANT: PIZZA Mariagrazia
; APPLICANT: MASIGNANI Vega
; APPLICANT: MONACI Elisabetta
; TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
; FILE REFERENCE:
; CURRENT APPLICATION NUMBER: US/10/467,657
; CURRENT FILING DATE: 2003-08-11
; PRIOR APPLICATION NUMBER: GB-0103424.8
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 9218
; SOFTWARE: SeqWin99, version 1.04
; SEQ ID NO 7654
; LENGTH: 265
; TYPE: PRT
; ORGANISM: Neisseria gonorrhoeae
US-10-467-657-7654

Query Match      61.8%; Score 34; DB 6; Length 265;
Best Local Similarity 55.6%; Pred. No. 11;
Matches 5; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
```

Matches 5; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 FLHHLIAEI 9  
||||:|  
Db 197 FLHHVVRNI 205

## RESULT 7

US-10-957-569-28  
; Sequence 28, Application US/10957569  
; Publication No. US20050246785A1  
; GENERAL INFORMATION:  
; APPLICANT: COOK, Zhihong et al.  
; TITLE OF INVENTION: PROMOTER, PROMOTER CONTROL ELEMENTS, AND COMBINATIONS, AND USES THEREOF  
; FILE REFERENCE: 2750-1577PUS3  
; CURRENT APPLICATION NUMBER: US/10/957,569  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR APPLICATION NUMBER: US 10/950,321  
; PRIOR FILING DATE: 2004-09-23  
; NUMBER OF SEQ ID NOS: 64  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 28  
; LENGTH: 468  
; TYPE: PRT  
; ORGANISM: Arabidopsis thaliana  
US-10-957-569-28

Query Match 61.8%; Score 34; DB 6; Length 468;  
Best Local Similarity 71.4%; Pred. No. 21;  
Matches 5; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLIA 7  
||||:|  
Db 428 FLHHLVS 434

## RESULT 8

US-10-793-626-2636  
; Sequence 2636, Application US/10793626  
; Publication No. US20050255478A1  
; GENERAL INFORMATION:  
; APPLICANT: KIMMERLY, WILLIAM JOHN  
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS  
; FILE REFERENCE: PU3480US  
; CURRENT APPLICATION NUMBER: US/10/793,626  
; CURRENT FILING DATE: 2004-03-04  
; PRIOR APPLICATION NUMBER: 60/164,258  
; PRIOR FILING DATE: 1999-11-09  
; NUMBER OF SEQ ID NOS: 4472  
; SOFTWARE: PatentIn ver. 2.1  
; SEQ ID NO 2636  
; LENGTH: 292  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: amino acid sequence  
US-10-793-626-2636

Query Match 60.0%; Score 33; DB 6; Length 292;  
Best Local Similarity 75.0%; Pred. No. 19;  
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 LHHLIAEI 9  
||||:|  
Db 45 LHLVWEI 52

## RESULT 9

US-10-507-106-2  
; Sequence 2, Application US/10507106  
; Publication No. US20050246797A1

; GENERAL INFORMATION:  
; APPLICANT: Japan Science and Technology Agency  
; TITLE OF INVENTION: Gene participating in the synthesis of brassinosteroid  
; FILE REFERENCE: 26352U (PS03-311PCT)  
; CURRENT APPLICATION NUMBER: US/10/507,106  
; CURRENT FILING DATE: 2004-09-10  
; NUMBER OF SEQ ID NOS: 6  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 490  
; TYPE: PRT  
; ORGANISM: Arabidopsis thaliana  
US-10-507-106-2

Query Match 60.0%; Score 33; DB 6; Length 490;  
Best Local Similarity 83.3%; Pred. No. 33;  
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLI 6  
||||:|  
Db 454 FLHHLV 459

## RESULT 10

US-10-507-106-4  
; Sequence 4, Application US/10507106  
; Publication No. US20050246797A1  
; GENERAL INFORMATION:  
; APPLICANT: Japan Science and Technology Agency  
; TITLE OF INVENTION: Gene participating in the synthesis of brassinosteroid  
; FILE REFERENCE: 26352U (PS03-311PCT)  
; CURRENT APPLICATION NUMBER: US/10/507,106  
; CURRENT FILING DATE: 2004-09-10  
; NUMBER OF SEQ ID NOS: 6  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 4  
; LENGTH: 524  
; TYPE: PRT  
; ORGANISM: Arabidopsis thaliana  
US-10-507-106-4

Query Match 60.0%; Score 33; DB 6; Length 524;  
Best Local Similarity 83.3%; Pred. No. 35;  
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FLHHLI 6  
||||:|  
Db 476 FLHHLV 481

## RESULT 11

US-10-793-626-346  
; Sequence 346, Application US/10793626  
; Publication No. US20050255478A1  
; GENERAL INFORMATION:  
; APPLICANT: KIMMERLY, WILLIAM JOHN  
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS  
; FILE REFERENCE: PU3480US  
; CURRENT APPLICATION NUMBER: US/10/793,626  
; CURRENT FILING DATE: 2004-03-04  
; PRIOR APPLICATION NUMBER: 60/164,258  
; PRIOR FILING DATE: 1999-11-09  
; NUMBER OF SEQ ID NOS: 4472  
; SOFTWARE: PatentIn ver. 2.1  
; SEQ ID NO 346  
; LENGTH: 664  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: amino acid sequence  
US-10-793-626-346

Query Match 60.0%; Score 33; DB 6; Length 664;  
Best Local Similarity 62.5%; Pred. No. 45;  
Matches 5; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 2 LHHLIAEI 9  
Db 37 LHHLVYEV 44  
||||| :|

RESULT 12  
US-10-601-368-6  
; Sequence 6, Application US/10601368  
; Publication No. US20050260702A1  
; GENERAL INFORMATION:  
; APPLICANT: Pan, Yang  
; APPLICANT: Lora, Jose M.  
; TITLE OF INVENTION: NOVEL INTEGRIN ALPHA SUBUNIT AND USES THEREOF  
; FILE REFERENCE: 07334-275001  
; CURRENT APPLICATION NUMBER: US/10/601,368  
; CURRENT FILING DATE: 2003-06-23  
; PRIOR APPLICATION NUMBER: US/09/561,263A  
; PRIOR FILING DATE: 2000-04-27  
; PRIOR APPLICATION NUMBER: US 09/322,790  
; PRIOR FILING DATE: 1999-05-28  
; NUMBER OF SEQ ID NOS: 40  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 6  
; LENGTH: 1141  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; NAME/KEY: SIGNAL  
; LOCATION: (1)...(22)  
US-10-601-368-6

Query Match 60.0%; Score 33; DB 6; Length 1141;  
Best Local Similarity 66.7%; Pred. No. 81;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 FLHHLIAEI 9  
Db 919 FLHHLIEL 927  
||||| :|

RESULT 13  
US-10-601-368-24  
; Sequence 24, Application US/10601368  
; Publication No. US20050260702A1  
; GENERAL INFORMATION:  
; APPLICANT: Pan, Yang  
; APPLICANT: Lora, Jose M.  
; TITLE OF INVENTION: NOVEL INTEGRIN ALPHA SUBUNIT AND USES THEREOF  
; FILE REFERENCE: 07334-275001  
; CURRENT APPLICATION NUMBER: US/10/601,368  
; CURRENT FILING DATE: 2003-06-23  
; PRIOR APPLICATION NUMBER: US/09/561,263A  
; PRIOR FILING DATE: 2000-04-27  
; PRIOR APPLICATION NUMBER: US 09/322,790  
; PRIOR FILING DATE: 1999-05-28  
; NUMBER OF SEQ ID NOS: 40  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 24  
; LENGTH: 1141  
; TYPE: PRT  
; ORGANISM: Mus musculus  
US-10-601-368-24

Query Match 60.0%; Score 33; DB 6; Length 1141;  
Best Local Similarity 70.0%; Pred. No. 81;  
Matches 7; Conservative 1; Mismatches 0; Indels 2; Gaps 1;

Qy 1 FLHHLIAEIH 10  
||||| :||

Db 919 FLHHL--QIH 926

RESULT 14  
US-10-601-368-4  
; Sequence 4, Application US/10601368  
; Publication No. US20050260702A1  
; GENERAL INFORMATION:  
; APPLICANT: Pan, Yang  
; APPLICANT: Lora, Jose M.  
; TITLE OF INVENTION: NOVEL INTEGRIN ALPHA SUBUNIT AND USES THEREOF  
; FILE REFERENCE: 07334-275001  
; CURRENT APPLICATION NUMBER: US/10/601,368  
; CURRENT FILING DATE: 2003-06-23  
; PRIOR APPLICATION NUMBER: US/09/561,263A  
; PRIOR FILING DATE: 2000-04-27  
; PRIOR APPLICATION NUMBER: US 09/322,790  
; PRIOR FILING DATE: 1999-05-28  
; NUMBER OF SEQ ID NOS: 40  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 4  
; LENGTH: 1166  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-601-368-4

Query Match 60.0%; Score 33; DB 6; Length 1166;  
Best Local Similarity 66.7%; Pred. No. 83;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 FLHHLIAEI 9  
Db 897 FLHHLIEL 905  
||||| :|

RESULT 15  
US-10-601-368-22  
; Sequence 22, Application US/10601368  
; Publication No. US20050260702A1  
; GENERAL INFORMATION:  
; APPLICANT: Pan, Yang  
; APPLICANT: Lora, Jose M.  
; TITLE OF INVENTION: NOVEL INTEGRIN ALPHA SUBUNIT AND USES THEREOF  
; FILE REFERENCE: 07334-275001  
; CURRENT APPLICATION NUMBER: US/10/601,368  
; CURRENT FILING DATE: 2003-06-23  
; PRIOR APPLICATION NUMBER: US/09/561,263A  
; PRIOR FILING DATE: 2000-04-27  
; PRIOR APPLICATION NUMBER: US 09/322,790  
; PRIOR FILING DATE: 1999-05-28  
; NUMBER OF SEQ ID NOS: 40  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 22  
; LENGTH: 1166  
; TYPE: PRT  
; ORGANISM: Mus musculus  
US-10-601-368-22

Query Match 60.0%; Score 33; DB 6; Length 1166;  
Best Local Similarity 70.0%; Pred. No. 83;  
Matches 7; Conservative 1; Mismatches 0; Indels 2; Gaps 1;

Qy 1 FLHHLIAEIH 10  
Db 897 FLHHL--QIH 904  
||||| :||

Search completed: December 2, 2005, 23:11:03  
Job time : 1.0427 secs



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:35:41 ; Search time 20.0225 Seconds  
(without alignments)  
187.812 Million cell updates/sec

Title: US-10-691-125-2

Perfect score: 46

Sequence: 1 AVSEHQQLLH 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA\_Main:

- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
- 2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pep.\*
- 5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pep.\*
- 6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Query Score	Match	Length	DB ID	Description
1	46	100.0	9	4	US-10-192-673-8
2	46	100.0	9	5	US-10-691-125-2
3	46	100.0	14	4	US-10-192-673-4
4	46	100.0	29	3	US-09-843-221A-152
5	46	100.0	29	3	US-09-999-608-152
6	46	100.0	29	4	US-10-839-037-152
7	46	100.0	30	3	US-09-843-221A-176
8	46	100.0	30	3	US-09-843-221A-79
9	46	100.0	30	3	US-09-843-221A-134
10	46	100.0	30	3	US-09-843-221A-135
11	46	100.0	30	3	US-09-843-221A-136
12	46	100.0	30	3	US-09-843-221A-137
13	46	100.0	30	3	US-09-843-221A-138
14	46	100.0	30	3	US-09-843-221A-144
15	46	100.0	30	3	US-09-843-221A-145
16	46	100.0	30	3	US-09-843-221A-147
17	46	100.0	30	3	US-09-843-221A-148
18	46	100.0	30	3	US-09-843-221A-149
19	46	100.0	30	3	US-09-843-221A-151
20	46	100.0	30	3	US-09-843-221A-153
21	46	100.0	30	3	US-09-843-221A-154
22	46	100.0	30	3	US-09-843-221A-155
23	46	100.0	30	3	US-09-843-221A-156
24	46	100.0	30	3	US-09-843-221A-157
25	46	100.0	30	3	US-09-999-608-76
26	46	100.0	30	3	US-09-999-608-79
27	46	100.0	30	3	US-09-999-608-134

Sequence 135, App  
Sequence 136, App  
Sequence 137, App  
Sequence 138, App  
Sequence 144, App  
Sequence 145, App  
Sequence 147, App  
Sequence 148, App  
Sequence 149, App  
Sequence 151, App  
Sequence 153, App  
Sequence 154, App  
Sequence 155, App  
Sequence 156, App  
Sequence 157, App  
Sequence 76, Appl  
Sequence 79, Appl  
Sequence 134, App

#### ALIGNMENTS

RESULT 1  
US-10-192-673-8  
; Sequence 8, Application US/10192673  
; Publication No. US20030166838A1  
; GENERAL INFORMATION:  
; APPLICANT: Gardella, Thomas J.  
; APPLICANT: Kronenberg, Henry  
; APPLICANT: Potts, John T.  
; APPLICANT: Juppner, Harald  
; TITLE OF INVENTION: Bioactive Peptides and Peptide Derivatives of Parathyroid Hormone (PTH) and Parathyroid  
; TITLE OF INVENTION: Hormone-Related Peptide (PTHrp)  
; FILE REFERENCE: 0609.4570002  
; CURRENT APPLICATION NUMBER: US/10192,673  
; CURRENT FILING DATE: 2002-07-11  
; PRIOR APPLICATION NUMBER: U.S. 09/421,379  
; PRIOR FILING DATE: 1999-10-20  
; PRIOR APPLICATION NUMBER: U.S. 60/105,530  
; PRIOR FILING DATE: 1998-10-22  
; NUMBER OF SEQ ID NOS: 13  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 8  
; LENGTH: 9  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: peptide  
US-10-192-673-8  
Query Match 100.0%; Score 46; DB 4; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQQLLH 9  
| | | | | | | | |  
Db 1 AVSEHQQLLH 9  
RESULT 2  
US-10-691-125-2  
; Sequence 2, Application US/10691125  
; Publication No. US2005003023A1  
; GENERAL INFORMATION:  
; APPLICANT: Corrales, Pierpaolo  
; APPLICANT: Cusi, Maria Grazia  
; APPLICANT: Francini, Guido  
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS  
; FILE REFERENCE: 126442-100004US  
; CURRENT APPLICATION NUMBER: US/10/691,125

; CURRENT FILING DATE: 2003-10-21  
; NUMBER OF SEQ ID NOS: 9  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 2  
; LENGTH: 9  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; NAME/KEY: MISC\_FEATURE  
; OTHER INFORMATION: PTR-1  
US-10-691-125-2

Query Match 100.0%; Score 46; DB 5; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
| | | | | | | | |  
Db 1 AVSEHQQLLH 9

## RESULT 3

US-10-192-673-4  
; Sequence 4, Application US/10192673  
; Publication No. US20030166838A1  
; GENERAL INFORMATION:  
; APPLICANT: Gardella, Thomas J.  
; APPLICANT: Kronenberg, Henry  
; APPLICANT: Potts, John T.  
; APPLICANT: Juppner, Harald  
; TITLE OF INVENTION: Bioactive Peptides and Peptide Derivatives of  
; TITLE OF INVENTION: Parathyroid Hormone (PTH) and Parathyroid  
; TITLE OF INVENTION: Hormone-Related Peptide (PTHrP)  
; FILE REFERENCE: 0609.4570002  
; CURRENT APPLICATION NUMBER: US/10/192,673  
; CURRENT FILING DATE: 2002-07-11  
; PRIOR APPLICATION NUMBER: U.S. 09/421,379  
; PRIOR FILING DATE: 1999-10-20  
; PRIOR APPLICATION NUMBER: U.S. 60/105,530  
; PRIOR FILING DATE: 1998-10-22  
; NUMBER OF SEQ ID NOS: 13  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 4  
; LENGTH: 14  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: peptide  
US-10-192-673-4

Query Match 100.0%; Score 46; DB 4; Length 14;  
Best Local Similarity 100.0%; Pred. No. 0.11;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
| | | | | | | | |  
Db 1 AVSEHQQLLH 9

## RESULT 4

US-09-843-221A-152  
; Sequence 152, Application US/0984321A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26

; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 152  
; LENGTH: 29  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-152

Query Match 100.0%; Score 46; DB 3; Length 29;  
Best Local Similarity 100.0%; Pred. No. 0.23;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
| | | | | | | | |  
Db 1 AVSEHQQLLH 9

## RESULT 5

US-09-999-608-152  
; Sequence 152, Application US/09999608  
; Publication No. US20050124537A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: GREGG, COLIN V.  
; APPLICANT: JAROSINSKI, MARK ANTHONY  
; APPLICANT: KINSTLER, OLAF BORIS  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID  
; TITLE OF INVENTION: HORMONE-RELATED PROTEIN  
; FILE REFERENCE: A-665C  
; CURRENT APPLICATION NUMBER: US/09/999,608  
; CURRENT FILING DATE: 2002-03-11  
; PRIOR APPLICATION NUMBER: US 09/843,221  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: US 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: US 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: US 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 193  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 152  
; LENGTH: 29  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-999-608-152

Query Match 100.0%; Score 46; DB 3; Length 29;  
Best Local Similarity 100.0%; Pred. No. 0.23;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9  
| | | | | | | | |  
Db 1 AVSEHQQLLH 9

## RESULT 6

US-10-839-037-152  
; Sequence 152, Application US/10839037  
; Publication No. US2004021496A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENIUK, PAUL  
; APPLICANT: LIU, CHUAN-FA

; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/10/839,037  
; CURRENT FILING DATE: 2004-05-04  
; PRIOR APPLICATION NUMBER: US/09/843,221A  
; PRIOR FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 152  
; LENGTH: 29  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-10-839-037-152

Query Match 100.0%; Score 46; DB 4; Length 29;  
Best Local Similarity 100.0%; Pred. No. 0.23;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEHQLLH 9

RESULT 7

US-09-843-221A-76  
; Sequence 76, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUIK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 76  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-843-221A-76

Query Match 100.0%; Score 46; DB 3; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEHQLLH 9

RESULT 8

US-09-843-221A-79  
; Sequence 79, Application US/09843221A  
; Publication No. US20030039654A1

; GENERAL INFORMATION:  
; APPLICANT: KOSTENUIK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 79  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
; NAME/KEY: misc feature  
; LOCATION: (12)..(12)  
; OTHER INFORMATION: D amino acid  
US-09-843-221A-79

Query Match 100.0%; Score 46; DB 3; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEHQLLH 9

RESULT 9

US-09-843-221A-134  
; Sequence 134, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUIK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 134  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-134

Query Match 100.0%; Score 46; DB 3; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEHQLLH 9

```

RESULT 10
US-09-843-221A-135
; Sequence 135, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; PRIOR FILING DATE: 2000-04-27
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 135
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-135

Query Match          100.0%; Score 46; DB 3; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.24; Indels 0; Gaps 0;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 11
US-09-843-221A-136
; Sequence 136, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 136
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-136

Query Match          100.0%; Score 46; DB 3; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.24; Indels 0; Gaps 0;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 12
US-09-843-221A-137
; Sequence 137, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 137
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-137

Query Match          100.0%; Score 46; DB 3; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.24; Indels 0; Gaps 0;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9

RESULT 13
US-09-843-221A-138
; Sequence 138, Application US/09843221A
; Publication No. US20030039654A1
; GENERAL INFORMATION:
; APPLICANT: KOSTENUK, PAUL
; APPLICANT: LIU, CHUAN-FA
; APPLICANT: LACEY, DAVID LEE
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H
; FILE REFERENCE: A-665B
; CURRENT APPLICATION NUMBER: US/09/843,221A
; CURRENT FILING DATE: 2001-04-26
; PRIOR APPLICATION NUMBER: 60/266,673
; PRIOR FILING DATE: 2001-02-06
; PRIOR APPLICATION NUMBER: 60/214,860
; PRIOR FILING DATE: 2000-06-28
; PRIOR APPLICATION NUMBER: 60/200,053
; NUMBER OF SEQ ID NOS: 170
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 138
; LENGTH: 30
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: modified human PTHrP
US-09-843-221A-138

Query Match          100.0%; Score 46; DB 3; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.24; Indels 0; Gaps 0;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9
Db 1 AVSEHQLLH 9
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Best Local Similarity 100.0%; Pred. No. 0.24; DB 3; Length 30;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQQLLH 9  
Db 1 AVSEHQQLLH 9  
RESULT 14  
US-09-843-221A-144  
; Sequence 144, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUIK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 144  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP  
US-09-843-221A-144

Query Match 100.0%; Score 46; DB 3; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.24; DB 3; Length 30;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQQLLH 9  
Db 1 AVSEHQQLLH 9  
RESULT 15  
US-09-843-221A-145  
; Sequence 145, Application US/09843221A  
; Publication No. US20030039654A1  
; GENERAL INFORMATION:  
; APPLICANT: KOSTENUIK, PAUL  
; APPLICANT: LIU, CHUAN-FA  
; APPLICANT: LACEY, DAVID LEE  
; TITLE OF INVENTION: MODULATORS OF RECEPTORS FOR PARATHYROID HORMONE AND PARATHYROID H  
; TITLE OF INVENTION: RELATED PROTEIN  
; FILE REFERENCE: A-665B  
; CURRENT APPLICATION NUMBER: US/09/843,221A  
; CURRENT FILING DATE: 2001-04-26  
; PRIOR APPLICATION NUMBER: 60/266,673  
; PRIOR FILING DATE: 2001-02-06  
; PRIOR APPLICATION NUMBER: 60/214,860  
; PRIOR FILING DATE: 2000-06-28  
; PRIOR APPLICATION NUMBER: 60/200,053  
; PRIOR FILING DATE: 2000-04-27  
; NUMBER OF SEQ ID NOS: 170  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 145  
; LENGTH: 30  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: modified human PTHrP

US-09-843-221A-145  
Query Match 100.0%; Score 46; DB 3; Length 30;  
Best Local Similarity 100.0%; Pred. No. 0.24; DB 3; Length 30;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 AVSEHQQLLH 9  
Db 1 AVSEHQQLLH 9  
Search completed: December 2, 2005, 23:10:41  
Job time : 20.0225 secs

**This Page Blank (uspto)**

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:36:21 ; Search time 0.758427 Seconds  
(without alignments)  
56.822 Million cell updates/sec

Title: us-10-691-125-2

Perfect score: 46

Sequence: 1 AVSEHQLLH 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 26661 seqs, 4788334 residues

Total number of hits satisfying chosen parameters: 26661

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA New:

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8: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	46	100.0	175	7	US-11-058-384-2
2	46	100.0	177	6	US-10-623-155-165
3	46	100.0	177	6	US-10-623-155-166
4	33	71.7	12	6	US-10-954-695-5
5	33	71.7	15	6	US-10-954-695-11
6	31	67.4	215	6	US-10-793-626-828
7	30	65.2	12	6	US-10-954-695-3
8	30	65.2	15	6	US-10-954-695-9
9	30	65.2	262	6	US-10-467-657-7300
10	30	65.2	328	6	US-10-131-826A-326
11	29	63.0	11	6	US-10-954-695-1
12	29	63.0	12	6	US-10-954-695-6
13	29	63.0	14	6	US-10-954-695-7
14	29	63.0	15	6	US-10-954-695-12
15	29	63.0	111	6	US-10-793-626-384
16	29	63.0	138	6	US-10-793-626-1540
17	29	63.0	145	6	US-10-793-626-2328
18	29	63.0	176	6	US-10-793-626-612
19	29	63.0	290	7	US-11-113-424-78
20	29	63.0	309	6	US-10-858-730-213
21	29	63.0	421	6	US-10-467-657-3348
22	29	63.0	523	6	US-10-467-657-5392
23	29	63.0	584	6	US-10-485-517-164
24	29	63.0	1171	6	US-10-467-657-7842
25	29	63.0	2314	7	US-11-097-728-2

26 29 63.0 2353 7 US-11-097-728-6  
27 28 60.9 103 6 US-10-467-657-110  
28 28 60.9 103 6 US-10-467-657-6246  
29 28 60.9 237 6 US-10-793-626-1744  
30 28 60.9 422 7 US-11-055-822-560  
31 28 60.9 422 7 US-11-055-822-562  
32 28 60.9 594 6 US-10-467-657-6376  
33 27.5 59.8 307 6 US-10-467-657-1592  
34 27 58.7 49 6 US-10-467-657-5686  
35 27 58.7 298 6 US-10-793-626-1298  
36 27 58.7 401 6 US-10-793-626-836  
37 27 58.7 490 6 US-10-467-657-7280  
38 27 58.7 490 6 US-10-467-657-8158  
39 27 58.7 492 6 US-10-793-626-770  
40 27 58.7 567 6 US-10-131-826A-476  
41 27 58.7 568 6 US-10-793-626-2482  
42 27 58.7 873 7 US-11-077-550-167  
43 27 58.7 1145 6 US-10-793-626-1432  
44 26 56.5 12 6 US-10-954-695-4  
45 26 56.5 15 6 US-10-954-695-10

#### ALIGNMENTS

RESULT 1  
US-11-058-384-2  
; Sequence 2, Application US/11058384  
; Publication No. US20050261183A1  
; GENERAL INFORMATION:  
; APPLICANT: STEWART, Andrew F.  
; TITLE OF INVENTION: PTHRF-Derived Modulators of Smooth Muscle Proliferation  
; FILE REFERENCE: VAS-001US  
; CURRENT APPLICATION NUMBER: US/11/058,384  
; PRIOR FILING DATE: 2005-02-15  
; PRIOR APPLICATION NUMBER: PCT/US2003/025473  
; PRIOR FILING DATE: 2003-08-13  
; PRIOR APPLICATION NUMBER: 60/403,805  
; PRIOR FILING DATE: 2002-08-15  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: Patent in version 3.3  
; SEQ ID NO 2  
; LENGTH: 175  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-2

Query Match 100.0%; Score 46; DB 7; Length 175;  
Best Local Similarity 100.0%; Pred. No. 0.011;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 37 AVSEHQLLH 45

RESULT 2  
US-10-623-155-165  
; Sequence 165, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623,155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSeq for Windows Version 4.0

; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-623-155-165

Query Match 100.0%; Score 46; DB 6; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.011;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 37 AVSEHQLLH 45

## RESULT 3

US-10-623-155-166  
; Sequence 166, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623,155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-623-155-166

Query Match 100.0%; Score 46; DB 6; Length 177;  
Best Local Similarity 100.0%; Pred. No. 0.011;  
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 37 AVSEHQLLH 45

## RESULT 4

US-10-954-695-5  
; Sequence 5, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; TITLE OF INVENTION: Hormone (PTH) 1-84  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR FILING DATE: 2004-09-30  
; PRIOR FILING DATE: 2004-03-04  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 5  
; LENGTH: 12  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-5

Query Match 71.7%; Score 33; DB 6; Length 12;  
Best Local Similarity 77.8%; Pred. No. 0.18;

Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEIQLMH 9

## RESULT 5

US-10-954-695-11  
; Sequence 11, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR FILING DATE: 2000-12-05  
; PRIOR FILING DATE: 2004-03-04  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 11  
; LENGTH: 15  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-11

Query Match 71.7%; Score 33; DB 6; Length 15;  
Best Local Similarity 77.8%; Pred. No. 0.23;  
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 1 AVSEIQLMH 9

## RESULT 6

US-10-793-626-828  
; Sequence 828, Application US/10793626  
; Publication No. US20050255478A1  
; GENERAL INFORMATION:  
; APPLICANT: KIMMERLY, WILLIAM JOHN  
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS  
; FILE REFERENCE: PU3480US  
; CURRENT APPLICATION NUMBER: US/10/793,626  
; CURRENT FILING DATE: 2004-03-04  
; PRIOR FILING DATE: 2004-03-04  
; PRIOR FILING DATE: 1999-11-09  
; NUMBER OF SEQ ID NOS: 4472  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 828  
; LENGTH: 215  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: amino acid sequence  
US-10-793-626-828

Query Match 67.4%; Score 31; DB 6; Length 215;  
Best Local Similarity 66.7%; Pred. No. 11;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
| | | | | | | | | |  
Db 190 AQSARELLH 198



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RESULT 7
US-10-954-695-3
; Sequence 3, Application US/10954695
; Publication No. US20050260191A1
; GENERAL INFORMATION:
; APPLICANT: Zahradnik, Richard J.
; APPLICANT: Lavigne, Jeffrey R.
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid
; TITLE OF INVENTION: Hormone (PTH) 1-84
; FILE REFERENCE: IMUNE-001C
; CURRENT APPLICATION NUMBER: US/10/954,695
; CURRENT FILING DATE: 2004-09-30
; PRIOR APPLICATION NUMBER: US 09/730,174
; PRIOR FILING DATE: 2000-12-05
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patent in version 3.3
; SEQ ID NO 3
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies
US-10-954-695-3

Query Match 65.2%; Score 30; DB 6; Length 12;
Best Local Similarity 66.7%; Pred. No. 0.67;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
Db 1 SVSEIQLMH 9

RESULT 8
US-10-954-695-9
; Sequence 9, Application US/10954695
; Publication No. US20050260191A1
; GENERAL INFORMATION:
; APPLICANT: Zahradnik, Richard J.
; APPLICANT: Lavigne, Jeffrey R.
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid
; TITLE OF INVENTION: Hormone (PTH) 1-84
; FILE REFERENCE: IMUNE-001C
; CURRENT APPLICATION NUMBER: US/10/954,695
; CURRENT FILING DATE: 2004-09-30
; PRIOR APPLICATION NUMBER: US 09/730,174
; PRIOR FILING DATE: 2000-12-05
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patent in version 3.3
; SEQ ID NO 9
; LENGTH: 15
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies
US-10-954-695-9

Query Match 65.2%; Score 30; DB 6; Length 15;
Best Local Similarity 66.7%; Pred. No. 0.86;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 AVSEHQQLLH 9
Db 1 SVSEIQLMH 9

RESULT 9
US-10-467-657-7300
; Sequence 7300, Application US/10467657
; Publication No. US20050260581A1
; GENERAL INFORMATION:
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; APPLICANT: CHIRON SpA
; APPLICANT: FONTANA Maria Rita
; APPLICANT: PIZZA Mariagrazia
; APPLICANT: MASNANI Vega
; APPLICANT: MONACI Elisabetta
; TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
; FILE REFERENCE:
; CURRENT APPLICATION NUMBER: US/10/467,657
; CURRENT FILING DATE: 2003-08-11
; PRIOR APPLICATION NUMBER: GB-0103424.8
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 9218
; SOFTWARE: SeqWin99, version 1.04
; SEQ ID NO 7300
; LENGTH: 262
; TYPE: PRT
; ORGANISM: Neisseria gonorrhoeae
US-10-467-657-7300

Query Match 65.2%; Score 30; DB 6; Length 262;
Best Local Similarity 83.3%; Pred. No. 21;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 4 EHQLLH 9
Db 17 EHRLH 22

RESULT 10
US-10-131-826A-326
; Sequence 326, Application US/10131826A
; Publication No. US20050245730A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Beresini, Maureen
; APPLICANT: DeForge, Laura
; APPLICANT: Desnoyers, Luc
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Geritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Sherwood, Steven
; APPLICANT: Smith, Victoria
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Watanabe, Colin K
; APPLICANT: Wood, William
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; TITLE OF INVENTION: ACIDS ENCODING THE SAME
; FILE REFERENCE: P3330R1C128
; CURRENT APPLICATION NUMBER: US/10/131,826A
; CURRENT FILING DATE: 2002-04-24
; PRIOR APPLICATION NUMBER: 60/049911
; PRIOR FILING DATE: 1997-06-18
; PRIOR APPLICATION NUMBER: 60/056974
; PRIOR FILING DATE: 1997-08-26
; PRIOR APPLICATION NUMBER: 60/059113
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/059115
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/059117
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/059122
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/059184
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/059263
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: 60/059352
; PRIOR FILING DATE: 1997-09-19
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; PRIOR APPLICATION NUMBER: 60/059588  
; PRIOR FILING DATE: 1997-09-19  
; Remaining Prior Application data removed - See File Wrapper or PALM.  
; NUMBER OF SEQ ID NOS: 550  
; SEQ ID NO 326  
; LENGTH: 328  
; TYPE: PRT  
; ORGANISM: Homo Sapien  
US-10-131-826A-326

Query Match 65.2%; Score 30; DB 6; Length 328;  
Best Local Similarity 66.7%; Pred. No. 27;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 143 AGSEHQINH 151

## RESULT 11

US-10-954-695-1  
; Sequence 1, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; TITLE OF INVENTION: Hormone (PTH) 1-84  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR APPLICATION NUMBER: US 09/730,174  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 1  
; LENGTH: 11  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-1

Query Match 63.0%; Score 29; DB 6; Length 11;  
Best Local Similarity 75.0%; Pred. No. 0.95;  
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 VSEHQLLH 9  
Db 1 VSEIQLMH 8

## RESULT 12

US-10-954-695-6  
; Sequence 6, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; TITLE OF INVENTION: Hormone (PTH) 1-84  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR APPLICATION NUMBER: US 09/730,174  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 6  
; LENGTH: 12  
; TYPE: PRT

; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-6

Query Match 63.0%; Score 29; DB 6; Length 12;  
Best Local Similarity 66.7%; Pred. No. 1.1;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEIQFMH 9

## RESULT 13

US-10-954-695-7  
; Sequence 7, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; TITLE OF INVENTION: Hormone (PTH) 1-84  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR APPLICATION NUMBER: US 09/730,174  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 7  
; LENGTH: 14  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-7

Query Match 63.0%; Score 29; DB 6; Length 14;  
Best Local Similarity 75.0%; Pred. No. 1.2;  
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 VSEHQLLH 9  
Db 1 VSEIQLMH 8

## RESULT 14

US-10-954-695-12  
; Sequence 12, Application US/10954695  
; Publication No. US20050260191A1  
; GENERAL INFORMATION:  
; APPLICANT: Zahradnik, Richard J.  
; APPLICANT: Lavigne, Jeffrey R.  
; TITLE OF INVENTION: Antibodies and Peptide Antigens for Producing Antibodies having a  
; TITLE OF INVENTION: Selective Binding Specificity to Bioactive Intact Parathyroid  
; TITLE OF INVENTION: Hormone (PTH) 1-84  
; FILE REFERENCE: IMUNE-001C  
; CURRENT APPLICATION NUMBER: US/10/954,695  
; CURRENT FILING DATE: 2004-09-30  
; PRIOR APPLICATION NUMBER: US 09/730,174  
; PRIOR FILING DATE: 2000-12-05  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 12  
; LENGTH: 15  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Induces Formation of Antibodies and Isolates Said Antibodies  
US-10-954-695-12

Query Match 63.0%; Score 29; DB 6; Length 15;  
Best Local Similarity 66.7%; Pred. No. 1.3;  
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 AVSEHQLLH 9  
Db 1 AVSEIQFMH 9

RESULT 15  
US-10-793-626-384  
; Sequence 384, Application US/10793626  
; Publication No. US20050255478A1  
; GENERAL INFORMATION:  
; APPLICANT: KIMMERLY, WILLIAM JOHN  
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS  
; FILE REFERENCE: PU3480US  
; CURRENT APPLICATION NUMBER: US/10/793,626  
; CURRENT FILING DATE: 2004-03-04  
; PRIOR APPLICATION NUMBER: 60/164,258  
; PRIOR FILING DATE: 1999-11-09  
; NUMBER OF SEQ ID NOS: 4472  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 384  
; LENGTH: 111  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: synthetic  
; OTHER INFORMATION: amino acid sequence  
US-10-793-626-384

Query Match 63.0%; Score 29; DB 6; Length 111;  
Best Local Similarity 37.5%; Pred. No. 13;  
Matches 3; Conservative 5; Mismatches 0; Indels 0; Gaps 0;

Qy 2 VSEHQLLH 9  
Db 54 LTQHQLIH 61

Search completed: December 2, 2005, 23:11:03  
Job time : 1.95843 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:35:41 ; Search time 313.685 Seconds  
(without alignments)  
187.812 Million cell updates/sec

Title: us-10-691-125-1

Perfect score: 738

Sequence: 1 AVSEHQLLHDKGKSIQDLRR.....EGDHLSDTSTTSLELDSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- Published Applications AA Main:
- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
  - 2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*
  - 3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
  - 4: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pep.\*
  - 5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pep.\*
  - 6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	738	100.0	141	4	US-10-344-279-2
2	738	100.0	141	4	US-10-258-477-2
3	738	100.0	141	4	US-10-398-449-32
4	738	100.0	141	5	US-10-691-125-1
5	738	100.0	177	3	US-09-735-705-165
6	738	100.0	177	3	US-09-735-705-166
7	738	100.0	177	3	US-09-850-716A-165
8	738	100.0	177	3	US-09-850-716A-166
9	738	100.0	177	3	US-09-897-778-165
10	738	100.0	177	3	US-09-897-778-166
11	738	100.0	177	3	US-09-466-396A-165
12	738	100.0	177	3	US-09-466-396A-166
13	738	100.0	177	4	US-10-007-700-165
14	738	100.0	177	4	US-10-007-700-166
15	738	100.0	177	4	US-10-117-982-165
16	738	100.0	177	4	US-10-117-982-166
17	738	100.0	177	4	US-10-313-986-165
18	738	100.0	177	4	US-10-313-986-166
19	738	100.0	177	5	US-10-775-972-165
20	738	100.0	177	5	US-10-775-972-166
21	738	100.0	177	5	US-10-922-124-165
22	738	100.0	177	5	US-10-922-124-166
23	725	98.2	139	4	US-10-344-279-1
24	725	98.2	139	4	US-10-258-477-1
25	725	98.2	139	4	US-10-398-449-33
26	725	98.2	173	4	US-10-344-279-3
27	725	98.2	173	4	US-10-258-477-3

28	725	98.2	175	4	US-10-171-311-192
29	725	98.2	196	5	US-10-511-698-8
30	725	98.2	202	5	US-10-511-698-9
31	725	98.2	203	4	US-10-398-449-43
32	725	98.2	209	4	US-10-398-449-34
33	725	98.2	209	5	US-10-511-698-7
34	725	98.2	220	5	US-10-450-763-48402
35	708	95.9	135	4	US-10-398-449-42
36	695	94.2	133	4	US-10-398-449-41
37	626	84.8	186	5	US-10-450-763-48399
38	610	82.7	139	4	US-10-276-231-5
39	610	82.7	175	4	US-10-276-231-4
40	608	82.4	139	4	US-10-276-231-10
41	608	82.4	175	4	US-10-276-231-9
42	452	61.2	86	3	US-09-843-221A-62
43	452	61.2	86	3	US-09-999-608-62
44	452	61.2	86	4	US-10-839-037-62
45	402	54.5	140	5	US-10-450-763-48400

ALIGNMENTS

RESULT 1

US-10-344-279-2

; Sequence 2, Application US/10344279

; Publication No. US20030181373A1

; GENERAL INFORMATION:

; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISYA

; TITLE OF INVENTION: VESSEL CHALASIA AGENT

; FILE REFERENCE: PH-1247-PCT

; CURRENT APPLICATION NUMBER: US/10/344, 279

; CURRENT FILING DATE: 2002-02-10

; PRIOR APPLICATION NUMBER: JP 2000-243873

; PRIOR FILING DATE: 2000-08-11

; NUMBER OF SEQ ID NOS: 3

; SOFTWARE: Patent in Ver. 2.0

; SEQ ID NO 2

; LENGTH: 141

; TYPE: PRT

; ORGANISM: Homo sapiens

US-10-344-279-2

Query Match 100.0%; Score 738; DB 4; Length 141;

Best Local Similarity 100.0%; Pred. No. 2.5e-63;

Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRFFLHLIAETHTAEIRATSEVSPNSKPSPTKNHPVRFG 60

Db 1 AVSEHQLLHDKGKSIQDLRRFFLHLIAETHTAEIRATSEVSPNSKPSPTKNHPVRFG 60

Qy 61 SDDEGRYLTQETNKVETKEQPLTKPGKKKGKPGKKEQKKRRTASAWLDSGVGTSG 120

Db 61 SDDEGRYLTQETNKVETKEQPLTKPGKKKGKPGKKEQKKRRTASAWLDSGVGTSG 120

Qy 121 LEGDHLSDTSTTSLELDSRRH 141

Db 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 2

US-10-258-477-2

; Sequence 2, Application US/10258477

; Publication No. US20040001824A1

; GENERAL INFORMATION:

; APPLICANT: CHUGAI SEIYAKU KABUSHIKI KAISHA

; TITLE OF INVENTION: CELL GROWTH-INHIBITING AGENT

; FILE REFERENCE: PH-1172-PCT

; CURRENT APPLICATION NUMBER: US/10/258,477

; CURRENT FILING DATE: 2003-02-25

; PRIOR APPLICATION NUMBER: JP2000-131793

; PRIOR FILING DATE: 2000-04-28

; PRIOR APPLICATION NUMBER: JP2000-173834

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; PRIOR FILING DATE: 2000-06-09
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-258-477-2

Query Match
Best Local Similarity 100.0%; Score 738; DB 4; Length 141;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60
Db 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60

Qy 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120
Db 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Db 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 3
US-10-398-449-32
; Sequence 32, Application US/10398449
; Publication No. US20040013719A1
; GENERAL INFORMATION:
; APPLICANT: Hollick, Michael F.
; TITLE OF INVENTION: Regulation of Cell Proliferation And Differentiation
; FILE OF INVENTION: Using Topically Applied Nucleic Acid Molecules
; FILE REFERENCE: 1539.0320001
; CURRENT APPLICATION NUMBER: US/10/398,449
; PRIOR FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/US01/31082
; PRIOR FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 60/238,134
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 32
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: hPTHcP (1-141)
US-10-398-449-32

Query Match
Best Local Similarity 100.0%; Score 738; DB 4; Length 141;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60
Db 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60

Qy 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120
Db 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Db 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 4
US-10-691-125-1
; Sequence 1, Application US/10691125
; Publication No. US20050033023A1
; GENERAL INFORMATION:
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; APPLICANT: Corraele, Pierpaolo
; APPLICANT: Cusi, Maria Grazia
; APPLICANT: Francini, Guido
; TITLE OF INVENTION: PTH-RP RELATED PEPTIDE CANCER THERAPEUTICS
; FILE REFERENCE: 126442-100004US
; CURRENT APPLICATION NUMBER: US/10/691,125
; CURRENT FILING DATE: 2003-10-21
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: MISC FEATURE
; OTHER INFORMATION: Human PTH-rP amino acid sequence
US-10-691-125-1

Query Match
Best Local Similarity 100.0%; Score 738; DB 5; Length 141;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60
Db 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60

Qy 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120
Db 61 SDDEGRYLTQETNKVETVKEQPLTPGKKKKGPKGKEQKKRRTRSAWLDSGVTGSG 120

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Db 121 LEGDHLSDTSTTSLELDSRRH 141

RESULT 5
US-09-735-705-165
; Sequence 165, Application US/09735705
; Patent No. US20020052329A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Fan, Liqun
; APPLICANT: Kalos, Michael D.
; APPLICANT: Bangur, Chaitanya S.
; APPLICANT: Hosken, Nancy
; APPLICANT: Fanger, Gary R.
; APPLICANT: Li, Samuel X.
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; APPLICANT: Fanger, Neil
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C14
; CURRENT APPLICATION NUMBER: US/09/735,705
; CURRENT FILING DATE: 2000-12-12
; NUMBER OF SEQ ID NOS: 419
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-735-705-165

Query Match
Best Local Similarity 100.0%; Score 738; DB 3; Length 177;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60
Db 37 AVSEHQLLHDKGKSIQDLRRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96
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Qy 61 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 156  
Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 6

US-09-735-705-166  
; Sequence 166, Application US/09735705  
; Patent No. US20020052329A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Fan, Liqun  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: Bangor, Chaitanya S.  
; APPLICANT: Hoaken, Nancy  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Li, Samuel X.  
; APPLICANT: Wang, Aijun  
; APPLICANT: Skeiky, Yasir A.W.  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: McNeill, Patricia D.  
; APPLICANT: Fanger, Neil  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C14  
; CURRENT APPLICATION NUMBER: US/09/735,705  
; CURRENT FILING DATE: 2000-12-12  
; NUMBER OF SEQ ID NOS: 419  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-735-705-166

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 60  
Db 37 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 96  
Qy 61 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 7

US-09-850-716A-165  
; Sequence 165, Application US/09850716A  
; Patent No. US20020115139A1  
; GENERAL INFORMATION:  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: McNeill, Patricia D.  
; APPLICANT: Retter, Marc W.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C15  
; CURRENT APPLICATION NUMBER: US/09/850,716A  
; CURRENT FILING DATE: 2001-05-07  
; NUMBER OF SEQ ID NOS: 440  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 165  
; LENGTH: 177

; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-850-716A-165

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 60  
Db 37 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 96  
Qy 61 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 8

US-09-850-716A-166  
; Sequence 166, Application US/09850716A  
; Patent No. US20020115139A1  
; GENERAL INFORMATION:  
; APPLICANT: Kalos, Michael D.  
; APPLICANT: McNeill, Patricia D.  
; APPLICANT: Retter, Marc W.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; TITLE OF INVENTION: AND DIAGNOSIS OF LUNG CANCER  
; FILE REFERENCE: 210121.455C15  
; CURRENT APPLICATION NUMBER: US/09/850,716A  
; CURRENT FILING DATE: 2001-05-07  
; NUMBER OF SEQ ID NOS: 440  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 166  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapien  
US-09-850-716A-166

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 60  
Db 37 AVSEHQLLHDKGKSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSPTKKNHPVRFG 96  
Qy 61 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 120  
Db 97 SDDEGRYLTQETNKVETKYEQPLKTPGKKKGKPGKKEQKKRRTSAWLDGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 9

US-09-897-778-165  
; Sequence 165, Application US/09897778  
; Patent No. US20020147143A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Mamerakis, Margarita  
; APPLICANT: Fanger, Gary R.  
; APPLICANT: Vedrick, Thomas S.  
; APPLICANT: Carter, Darriek  
; APPLICANT: Watanabe, Yoshihiro  
; APPLICANT: Henderson, Robert A.  
; APPLICANT: Peckham, David W.  
; APPLICANT: Fanger, Neil

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C16  
; CURRENT APPLICATION NUMBER: US/09/897,778  
; CURRENT FILING DATE: 2001-06-28  
; NUMBER OF SEQ ID NOS: 467  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-897-778-165

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
Db 37 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96

Qy 61 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120  
Db 97 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 10

US-09-897-778-166

; Sequence 166, Application US/09897778  
; Patent No. US20020147143A1

; GENERAL INFORMATION:

; APPLICANT: Wang, Tongtong

; APPLICANT: Marnerakis, Margarita

; APPLICANT: Fanger, Gary R.

; APPLICANT: Vedick, Thomas S.

; APPLICANT: Carter, Darrick

; APPLICANT: Watanabe, Yoshihiro

; APPLICANT: Henderson, Robert A.

; APPLICANT: Peckham, David W.

; APPLICANT: Fanger, Neil

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY

; FILE REFERENCE: 210121.455C16

; CURRENT APPLICATION NUMBER: US/09/897,778

; CURRENT FILING DATE: 2001-06-28

; NUMBER OF SEQ ID NOS: 467

; SOFTWARE: FastSEQ for Windows Version 4.0

; SEQ ID NO 166

; LENGTH: 177

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-897-778-166

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
Db 37 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96

Qy 61 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120  
Db 97 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 11

US-09-466-396A-165

; Sequence 165, Application US/09466396A

; Publication No. US20030119763A1

; GENERAL INFORMATION:

; APPLICANT: Wang, Tongtong

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND

; FILE REFERENCE: 210121.455C4

; CURRENT APPLICATION NUMBER: US/09/466,396A

; CURRENT FILING DATE: 1999-12-17

; NUMBER OF SEQ ID NOS: 224

; SOFTWARE: FastSEQ for Windows Version 3.0

; SEQ ID NO 165

; LENGTH: 177

; TYPE: PRT

; ORGANISM: Homo sapien

US-09-466-396A-165

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
Db 37 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96

Qy 61 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120  
Db 97 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177

## RESULT 12

US-09-466-396A-166

; Sequence 166, Application US/09466396A

; Publication No. US20030119763A1

; GENERAL INFORMATION:

; APPLICANT: Wang, Tongtong

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND

; FILE REFERENCE: 210121.455C4

; CURRENT APPLICATION NUMBER: US/09/466,396A

; CURRENT FILING DATE: 1999-12-17

; NUMBER OF SEQ ID NOS: 224

; SOFTWARE: FastSEQ for Windows Version 3.0

; SEQ ID NO 166

; LENGTH: 177

; TYPE: PRT

; ORGANISM: Homo sapien

US-09-466-396A-166

Query Match 100.0%; Score 738; DB 3; Length 177;  
Best Local Similarity 100.0%; Pred. No. 3.2e-63;  
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 60  
Db 37 AVSEHQLLDKKGSIQDLRRFFLHLLIAEHTAEIRATSEVSPNSKPSNTKNHPVRF 96

Qy 61 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 120  
Db 97 SDDGRLYTQETNKVETKEQPLTPGKKKGKPGKKEQKKRRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141  
Db 157 LEGDHLSDTSTTSLELDSRRH 177



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RESULT 13
US-10-007-700-165
; Sequence 165, Application US/10007700
; Publication No. US20030064947A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Li, Samuel X.
; APPLICANT: Kalos, Michael D.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; APPLICANT: Fanger, Neil
; APPLICANT: Retter, Marc W.
; APPLICANT: Durham, Margarita
; APPLICANT: Fanger, Gary R.
; APPLICANT: Vedvick, Thomas S.
; APPLICANT: Carter, Darrick
; APPLICANT: Watanabe, Yoshihiro
; APPLICANT: Peckman, David W.
; APPLICANT: Cai, Feng
; APPLICANT: Foy, Teresa M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C17
; CURRENT APPLICATION NUMBER: US/10/007,700
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 469
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-007-700-165

Query Match 100.0%; Score 738; DB 4; Length 177;
Best Local Similarity 100.0%; Pred. No. 3.2e-63;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 60
Db 37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 120
Db 97 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 14
US-10-007-700-166
; Sequence 166, Application US/10007700
; Publication No. US20030064947A1
; GENERAL INFORMATION:
; APPLICANT: Wang, Tongtong
; APPLICANT: Wang, Aijun
; APPLICANT: Skeiky, Yasir A.W.
; APPLICANT: Li, Samuel X.
; APPLICANT: Kalos, Michael D.
; APPLICANT: Henderson, Robert A.
; APPLICANT: McNeill, Patricia D.
; APPLICANT: Fanger, Neil
; APPLICANT: Retter, Marc W.
; APPLICANT: Durham, Margarita
; APPLICANT: Fanger, Gary R.
; APPLICANT: Vedvick, Thomas S.
; APPLICANT: Carter, Darrick
; APPLICANT: Watanabe, Yoshihiro
; APPLICANT: Peckman, David W.
; APPLICANT: Cai, Feng
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C17
; CURRENT APPLICATION NUMBER: US/10/007,700
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 469
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 166
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-007-700-166

Query Match 100.0%; Score 738; DB 4; Length 177;
Best Local Similarity 100.0%; Pred. No. 3.2e-63;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 60
Db 37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 120
Db 97 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
Db 157 LEGDHLSDTSTTSLELDSRRH 177

RESULT 15
US-10-117-982-165
; Sequence 165, Application US/10117982
; Publication No. US20030138438A1
; GENERAL INFORMATION:
; APPLICANT: Foy, Teresa M.
; APPLICANT: Vedvick, Thomas S.
; APPLICANT: Carter, Darrick
; APPLICANT: Watanabe, Yoshihiro
; APPLICANT: Henderson, Robert A.
; APPLICANT: Kalos, Michael D.
; APPLICANT: Mericle, Barbara
; APPLICANT: Spies, Gregory A.
; APPLICANT: Fan, Liqun
; APPLICANT: Wang, Tongtong
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
; FILE REFERENCE: 210121.455C18
; CURRENT APPLICATION NUMBER: US/10/117,982
; CURRENT FILING DATE: 2002-04-05
; NUMBER OF SEQ ID NOS: 484
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 165
; LENGTH: 177
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-117-982-165

Query Match 100.0%; Score 738; DB 4; Length 177;
Best Local Similarity 100.0%; Pred. No. 3.2e-63;
Matches 141; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 60
Db 37 AVSEHQLLDKGSIQDLRRRFFLHLIAEHTAEIRATSEVSPNSKPSNTKKNHPVRFG 96

Qy 61 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 120
Db 97 SDDEGRYLTOETNKVETTYKEOPLTPGKKKGKPKRKEQKKRTRSAWLDGSGVTGSG 156

Qy 121 LEGDHLSDTSTTSLELDSRRH 141
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Db 157 LEGDHLSDTSTTSLELDSRRH 177

Search completed: December 2, 2005, 23:10:41  
Job time : 315.685 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 2, 2005, 22:36:21 ; Search time 11.882 Seconds  
(without alignments)  
56.822 Million cell updates/sec

Title: US-10-691-125-1

Perfect score: 738

Sequence: 1 AVSEHQLLDKXSIQDLRR.....EGDHLSDTSTSLDLSRRH 141

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 25661 seqs, 4788334 residues

Total number of hits satisfying chosen parameters: 26661

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

Published Applications AA New:

- 1: /cgn2\_6/ptodata/1/pubpaa/US09\_NEW\_PUB.pap.\*
- 2: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pap.\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pap.\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pap.\*
- 5: /cgn2\_6/ptodata/1/pubpaa/PCT\_NEW\_PUB.pap.\*
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- 7: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pap.\*
- 8: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pap.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	738	100.0	177	6	US-10-623-155-165
2	738	100.0	177	6	US-10-623-155-166
3	725	98.2	175	7	US-11-058-384-2
4	168	22.8	33	7	US-11-058-384-4
5	168	22.8	33	7	US-11-058-384-14
6	165	22.4	33	7	US-11-058-384-9
7	165	22.4	33	7	US-11-058-384-10
8	165	22.4	33	7	US-11-058-384-12
9	163	22.1	33	7	US-11-058-384-11
10	151	20.5	33	7	US-11-058-384-8
11	126	17.1	24	7	US-11-058-384-7
12	108.5	14.7	24	7	US-11-058-384-5
13	101	13.7	23	7	US-11-058-384-6
14	99	13.4	19	7	US-11-058-384-13
15	96	13.0	19	7	US-11-058-384-3
16	77	10.4	1531	7	US-11-087-227-24
17	76.5	10.4	1616	6	US-10-821-234-1497
18	73	9.9	252	6	US-10-821-234-1445
19	71	9.6	2432	6	US-10-821-234-899
20	70.5	9.6	346	6	US-10-467-657-2576
21	70.5	9.6	663	6	US-10-467-945A-1
22	69	9.3	333	6	US-10-821-234-1323
23	68	9.2	404	6	US-10-793-626-398
24	66.5	9.0	437	6	US-10-967-648A-2
25	66	8.9	612	6	US-10-467-657-3988

26	66	8.9	651	6	US-10-821-234-1666	Sequence 1666, Ap
27	65	8.9	1874	6	US-10-821-234-1182	Sequence 1182, Ap
28	65	8.8	427	6	US-10-467-657-4384	Sequence 4384, Ap
29	64.5	8.7	559	6	US-10-793-626-1376	Sequence 1376, Ap
30	63.5	8.6	411	6	US-10-467-657-4444	Sequence 4444, Ap
31	63	8.5	1142	7	US-11-109-156-22	Sequence 22, Appl
32	61.5	8.3	392	6	US-10-467-657-5980	Sequence 5980, Ap
33	61.5	8.3	431	7	US-11-058-735-79	Sequence 79, Appl
34	61.5	8.3	540	6	US-10-821-234-1456	Sequence 1456, Ap
35	61.5	8.3	645	6	US-10-485-517-244	Sequence 244, App
36	61.5	8.3	4384	6	US-10-821-234-1120	Sequence 1120, Ap
37	61	8.3	255	6	US-10-793-626-1304	Sequence 1304, Ap
38	61	8.3	348	6	US-10-793-626-1702	Sequence 1702, Ap
39	61	8.3	351	6	US-10-793-626-338	Sequence 338, App
40	61	8.3	404	6	US-10-793-626-2638	Sequence 2638, Ap
41	61	8.3	470	6	US-10-793-626-2922	Sequence 2922, Ap
42	61	8.3	696	6	US-10-793-626-2922	Sequence 2922, Ap
43	61	8.3	715	6	US-10-793-626-570	Sequence 570, App
44	61	8.3	877	7	US-11-074-176-322	Sequence 322, App
45	61	8.3	883	7	US-11-074-176-88	Sequence 88, Appl

ALIGNMENTS

RESULT 1  
US-10-623-155-165  
; Sequence 165, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY  
; FILE REFERENCE: 210121.455C20  
; CURRENT APPLICATION NUMBER: US/10/623.155  
; CURRENT FILING DATE: 2003-07-17  
; NUMBER OF SEQ ID NOS: 560  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 165  
; LENGTH: 177  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-623-155-165

Query Match	100.0%;	Score	738;	DB	6;	Length	177;
Best Local Similarity	100.0%;	Pred. No.	1.9e-63;				
Matches	141;	Conservative	0;	Mismatches	0;	Indels	0;
Gaps	0;						
Qy	1	AVSEHQLLDKXSIQDLRRFFLHLIAETHTAEIRATSEVSPNSKSPNTKHPVRFG	60				
Db	37	AVSEHQLLDKXSIQDLRRFFLHLIAETHTAEIRATSEVSPNSKSPNTKHPVRFG	96				
Qy	61	SDDSGRYLTQTNKVETVKEQPLTPGKKKKGKPKRKEQKRRTRSAWLDGVTGSG	120				
Db	97	SDDSGRYLTQTNKVETVKEQPLTPGKKKKGKPKRKEQKRRTRSAWLDGVTGSG	156				
Qy	121	LEGDHLSDTSTSLDLSRRH	141				
Db	157	LEGDHLSDTSTSLDLSRRH	177				

RESULT 2  
US-10-623-155-166  
; Sequence 166, Application US/10623155  
; Publication No. US20050261166A1  
; GENERAL INFORMATION:  
; APPLICANT: Wang, Tongtong  
; APPLICANT: Peckham, David W.  
; APPLICANT: Retter, Marc W.  
; APPLICANT: Fanger, Gary R.



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; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 9
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-9

Query Match      22.4%; Score 165; DB 7; Length 33;
Best Local Similarity 97.0%; Pred. No. 3.3e-10;
Matches 32; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 107 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 139
Db 1 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 33

RESULT 7
US-11-058-384-10
; Sequence 10, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; PRIOR FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 10
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-10

Query Match      22.4%; Score 165; DB 7; Length 33;
Best Local Similarity 97.0%; Pred. No. 3.3e-10;
Matches 32; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 107 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 139
Db 1 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 33

RESULT 8
US-11-058-384-12
; Sequence 12, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-12

Query Match      22.4%; Score 165; DB 7; Length 33;
Best Local Similarity 97.0%; Pred. No. 3.3e-10;
Matches 32; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 107 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 139
Db 1 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 33

RESULT 9
US-11-058-384-11
; Sequence 11, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 11
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-11

Query Match      22.1%; Score 163; DB 7; Length 33;
Best Local Similarity 97.0%; Pred. No. 5e-10;
Matches 32; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 107 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 139
Db 1 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 33

RESULT 10
US-11-058-384-8
; Sequence 8, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-8

Query Match      20.5%; Score 151; DB 7; Length 33;
Best Local Similarity 84.8%; Pred. No. 6.8e-09;
Matches 28; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 107 TRSAWLDSGVTGSGLEGHDHLSDTTSTLSLEDSR 139
Db 1 TRSAWLDSGVTGAGLEGHDHLSDTTATALELDAR 33
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RESULT 11
US-11-058-384-7
; Sequence 7, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; PRIOR FILING DATE: 2002-08-15
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 7
; LENGTH: 24
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-7

Query Match      17.1%; Score 126; DB 7; Length 24;
Best Local Similarity 100.0%; Pred. No. 1.1e-06;
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 107 TRSAWLDSGVGTGSLGEGDHLSDTS 130
Db 1 TRSAWLDSGVGTGSLGEGDHLSDTS 24
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RESULT 12
US-11-058-384-5
; Sequence 5, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 5
; LENGTH: 24
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-5

Query Match      14.7%; Score 108.5; DB 7; Length 24;
Best Local Similarity 72.7%; Pred. No. 4.8e-05;
Matches 24; Conservative 0; Mismatches 0; Indels 9; Gaps 1;

Qy 107 TRSAWLDSGVGTGSLGEGDHLSDTS 139
Db 1 TRSAWLDSGVGTGSLGEGDHLSDTS 24
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-----LEGDHLSDTSTTSLDLSR 24

RESULT 13
US-11-058-384-6
; Sequence 6, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 6
; LENGTH: 23
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-6

Query Match      13.7%; Score 101; DB 7; Length 23;
Best Local Similarity 69.7%; Pred. No. 0.00024;
Matches 23; Conservative 0; Mismatches 0; Indels 10; Gaps 1;

Qy 107 TRSAWLDSGVGTGSLGEGDHLSDTSTTSLDLSR 139
Db 1 TRSAWLDSGVGTGSG-----TTSLELDSR 23
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-----TTSLELDSR 23

RESULT 14
US-11-058-384-13
; Sequence 13, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 13
; LENGTH: 19
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-13

Query Match      13.4%; Score 99; DB 7; Length 19;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 88 KKKKGPGKRKEQKKRR 106
Db 1 KKKKGPGKRKEQKKRR 19
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RESULT 15
US-11-058-384-3
; Sequence 3, Application US/11058384
; Publication No. US20050261183A1
; GENERAL INFORMATION:
; APPLICANT: STEWART, Andrew F.
; TITLE OF INVENTION: PTHRP-Derived Modulators of Smooth Muscle Proliferation
; FILE REFERENCE: VAS-001US
; CURRENT APPLICATION NUMBER: US/11/058,384
; CURRENT FILING DATE: 2005-02-15
; PRIOR APPLICATION NUMBER: PCT/US2003/025473
; PRIOR FILING DATE: 2003-08-13
; PRIOR APPLICATION NUMBER: 60/403,805
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 3
; LENGTH: 19
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-058-384-3

Query Match      13.4%; Score 99; DB 7; Length 19;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 88 KKKKGPGKRKEQKKRR 106
Db 1 KKKKGPGKRKEQKKRR 19
|||||
|||||
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; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 3  
; LENGTH: 19  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-058-384-3

Query Match 13.0%; Score 96; DB 7; Length 19;  
Best Local Similarity 94.7%; Pred. No. 0.00056;  
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 88 KKKKGKPGKRYEQEKKKR 106  
|||||:|||||  
Db 1 KKKKGKPGKRYEQEKKKR 19

Search completed: December 2, 2005, 23:11:02  
Job time : 13.082 secs

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